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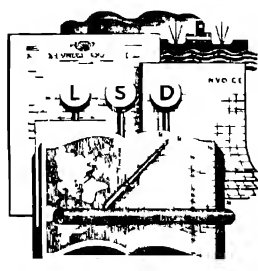
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THE PRACTICAL COMMERCIAL SELF-EDUCATOR

A COMPREHENSIVE TEXT-BOOK
ON MODERN BUSINESS PRACTICE
AND ADMINISTRATION

Edited by
MAXWELL CROOKS and HAROLD CRAWFORD



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HOW TO USE THIS BOOK

THE PURPOSE of this book is to provide instruction in the various subjects involved in modern commercial life. First, be quite sure that you have a clear view of your own aim. That aim is probably two-fold : (1) to become generally informed upon the various aspects of commercial activity; and (2) to master the elements of one or more basic subjects of knowledge employed in commercial work.

Your plan of approach should be, therefore, to devote some time in the first instance to a careful reading of all the sections. This will provide you with an outline of the general structure of commerce, and of the knowledge and skill essential to those engaged therein. Then select the subjects or sections in which you desire to become fully informed, and devote your time and attention to these. Remember that, throughout the book, the instruction is set down in a manner that will ensure the knowledge and skill becoming your own possession, just as effectively as would be the case with oral lessons, provided that you play your part as a keen student.

Let us suppose that your aim is to master Mercantile Law. We advise you to work steadily through the section, lesson by lesson. Read through one complete lesson as a whole ; then study it paragraph by paragraph, so that the instruction given is allowed to make a full impression upon your mind. Finally, read the lesson again, this time working through all the exercises.

The same process may be applied to many of the sections. For subjects such as Arithmetic, Book-keeping and Type-writing, each lesson should be completely mastered and the exercises carefully worked before passing on to the next lesson. Frequent revision is advisable.

At the end of each lesson you will find test questions. In some cases, the answers are provided at the end of the section. In others, the questions are set to stimulate your thought. Make the fullest possible use of all these questions, for they provide an opportunity to satisfy yourself that the knowledge given in each lesson is completely yours.

THE EDITORS

SECTION I

MODERN BUSINESS ORGANIZATION

LESSON ONE

BUILD-UP OF A TYPICAL BUSINESS

To many workers or prospective entrants into commercial occupations, the term "business" conveys the discouraging idea of daily drudgery and dull routine. It is unfortunate that this should be so, and equally unfortunate that many should picture themselves as cogs in a highly intricate mechanism. For, however frequently they may be reminded that, although cogs, they are important ones, in that without their services the mechanism cannot run smoothly and freely, they naturally feel neither flattered nor stimulated by the comparison to give of their best.

Throughout this section, therefore, an attempt is made to discard this false analogy of the business firm as a complex machine of multifarious cogs and levers, and to replace it with a truer, more inspiring comparison.

A business, if it is a sound one, is something essentially dynamic, vital, *alive*. It possesses that mysterious collection of attributes to which we refer in an individual as personality; and it grows and develops, adapting itself to its environment and watching alertly for circumstances which it can turn to its own advantage.

Here then is a more encouraging conception for the worker employed on some relatively humble job in a business. He is no mere cog in a soulless machine; rather is he one of many living cells in a purposeful, pulsating organism to the lifestream of which it is within his power to contribute his own individual share of vital energy.

But to do this he must be adequately equipped, not only with the proper technical skill and knowledge for his job, but also with the right attitude of mind. He should be alert and reliable, eager to assume responsibility, yet conscientious and careful not to exceed instructions. In particular he should be able to see where and how his special job fits into the general organization of the business, as well as what further knowledge he should acquire in order to be fully successful at that job, and to qualify for a post demanding greater powers and sense of responsibility.

This section is designed to help the business worker to achieve this wider and more intelligent outlook. Without going into minute technical details, it sets out to give a broad, general view of the purpose and plan of the internal activities of a typical business organization. Businesses may be either *personal*, i.e. dependent for their legal existence upon the personality of the individuals who are their proprietors (the sole trader and the partnership are the main kinds of personal business), or they may be *impersonal*, i.e. recognized by the law as having an independent existence quite apart from their actual proprietors (here, the main examples are public and private limited companies).

By a typical business, then, is meant one which is sufficiently complex to demand control by the limited liability company type of organization and

which, though too large for complete personal control by one proprietor or a few partners, is nevertheless not extensive enough to be ranked as a mammoth public concern.

Methods of Organization

It will be easily appreciated that directors of a business have the choice at the outset of organizing their firm mainly, though not exclusively, according to one of two methods. These may be termed the Sectional, or Departmental, method (or Line type, as it is called in America), and the Functional method (or Staff type) of organization.

Under the first of these, the business is divided into sections either according to commodities dealt in, if it is purely a trading business, or according to various processes performed, if it is a manufacturing concern. This kind of organization is explained diagrammatically in Fig. 1.

Responsibility is seen to be delegated from above downwards, and each department is independent of all the others.

Each department manager has a variety of duties to perform, e.g. he must supervise the buying, selling and publicity in his department; must engage and train his staff; and must be prepared to attend to any legal questions that may arise in connexion with his department's activities. Now a good buyer is not necessarily the best man for watching over the welfare of the departmental staff, nor is he always equipped with the knowledge and type of mind required to grapple with legal difficulties; hence, in larger businesses, the Sectional method of organization is sometimes found to be unduly rigid and to fail to call forth the most efficient response from each member of the personnel. These defects lead naturally to a consideration of the second method of organization.

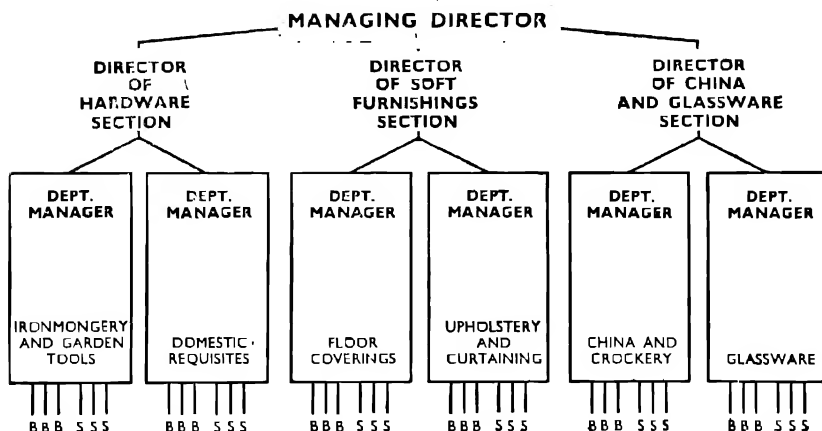


Fig. 1. Departmental method of modern business organization. The business is divided into sections according to the processes performed or the commodities dealt in and each section is independent of all others. The letters BBB and SSS in the diagram represent the Buyers and Sales staff.

Under the Functional method or Staff type of organization the idea is to allot each one of a number of predetermined functions of the business (such as buying, selling, accounting, and publicity) to a separate individual expert on the matter. Thus the personnel manager will be responsible for staff engagement, supervision and welfare throughout all departments of the business, the sales manager for sales and publicity work in all departments unless publicity is dealt with in a separate department.

The drawback of this method of organization is that it may conduce to a certain looseness of control over staff.

The Functional method would seem to conform more nearly to the conception of related cells in a living organism referred to at the beginning of this lesson. In diagrammatic form it is certainly better represented in circular or cellular form, as shown in Fig. 2, than by rectangles and straight lines as in the case of the Sectional method.

In practice, a combination of both methods is generally adopted, though with one or the other predominating, according to the policy of the directors of the particular business.

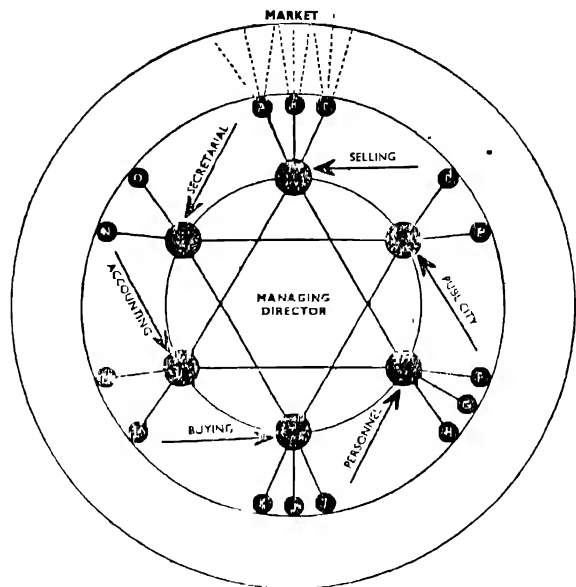


Fig. 2. Functional method of organization. In this case the business is divided into groups of functions, a group being the entire responsibility of the principal in charge. The lettering indicates:—ABC, Selling depts.; D, advertising; E, window dressing; F, staff engagement; G, staff welfare; H, staff training; IJK, buying depts.; L, book-keeping and invoicing dept.; M, statistical dept.; N, correspondence dept.; O, legal dept.

LESSON TWO

PERSONNEL OF A BUSINESS

THE striking and continued growth in popularity of the limited liability company type of business organization is seen from a glance at the official figures published by the Board of Trade. These show that the number of such companies carrying on business in the United Kingdom has risen consistently each year, and has nearly trebled within the last twenty

years. Probably eight out of every nine are "private" limited companies; hence the justification for referring to this latter type of organization as a typical business becomes more apparent.

Directors' Duties and Responsibilities

The management of a limited company is in the hands of its directors; so the questions immediately arise, how are these officials appointed, and what are their duties and responsibilities? First it should be realized that nowhere does the law of this country attempt to lay down any qualification for becoming a director. Thus, in general, every company is free to appoint its directors from any source and in any manner it has chosen to lay down in its Articles of Association, as the set of rules and regulations for its internal management is known.

Having been appointed, the directors stand in a twofold relationship to their company; for they are not only agents entering into transactions with outside persons on the company's behalf, but they are also trustees for the company's money and property.

As agents of their company, the directors are probably active commercial men. It is true that there are directors who do not take any part in the actual management of a business but only lend their names and their money to it; but usually the directors will be shrewd, calculating, energetic men of business with the interests of their enterprise actively at heart. As fully accredited agents of their company they will have to effect contacts with numerous other firms, and enter into important contracts on their company's behalf. All this is work which cannot be leisurely conducted from a comfortable office chair, or arranged informally over the telephone. It may necessitate many hours of travelling, much hard bargaining, and, not infrequently, deadlock and disappointment.

Further, as trustees of their company's money and property, the directors are bound to keep a watchful eye on the requirements of the law. Suppose for example that a director, though acting in the interests of his company and its shareholders, has concluded a contract which turns out to be beyond the legally recognized powers of his company. He then finds himself in the uncomfortable dilemma of either being personally liable for damages to the other contracting party, on account of his company's non-fulfilment of the contract, or of being personally liable to his own company if he himself attempts to fulfil such a contract on its behalf. The penalties for such breaches of trusteeship can be severe, as an examination of judgments in past company law cases will reveal. Although company law has been largely reduced to statute form (the Companies Act, 1929) it still remains an intricate branch of the law, subject at times to unexpected judicial interpretations.

The Managing Director

Owing to the varied nature of their duties and responsibilities, the directors usually appoint one or more of their number to act as managing director or general manager of the company. He will be responsible for carrying out the general policy of the firm and for the efficient and harmonious conduct of its internal organization. It is true that his proposals and decisions must generally be approved by the board of directors as a whole; but on the

other hand the members of the board, by appointing him as managing director, have already clearly shown their confidence in his particular qualifications and abilities, and would therefore be unlikely to be seriously obstructive to any sound programme of development he might place before them for consideration.

For the successful managing director, then, wide business experience and thorough technical knowledge are of course essential ; but more important still must be ranked the requirements of a commanding personality and real force of character, combined with broadmindedness, quickness of perception and imaginative insight.

Before going on to deal with some of the other members of the personnel of a typical business, reference must be made to a very real danger that besets the managing director. It is that the daily routine of conducting the business-firm may become so insistent in its demands on his time that he is prevented from giving adequate attention to wider business issues, and consequently finds the scope of his activities more rigidly confined than is either intellectually or economically desirable. It is largely with the object of avoiding this state of affairs that the customary course is taken of appointing a personal secretary to the managing director, who will be able to relieve the latter of much routine work. Indeed, in large concerns, the managing director's office may itself expand almost into another department, complete with its own miniature staff and equipment.

In order that the managing director may be able to devote thought and time to really important matters of business policy, he will delegate work to the assistant managing director and his own personal secretary. The former will assist with the actual administrative work and act as deputy in the absence of his chief, while the personal secretary with his or her assistants will attend to matters of a confidential nature, such as filing copies of highly important contracts, and deal with correspondence not requiring the managing director's personal attention.

Secretary and Accountant

Like the managing director, the secretary is both an agent of his firm and a business executive ; but, unlike him, he does not stand in the relationship of a trustee to the company and to its shareholders. One of His Majesty's judges made this point clear by pronouncing that : " A secretary is a mere servant : his position is that he is to do what he is told, and no person can assume that he has any authority to represent anything at all."

At first glance this might appear to suggest that the work of the secretary is of minor importance in the administration of the business, but in reality his position carries with it a very high degree of responsibility. The precise scope of his duties will be found to vary from firm to firm, but in general it is true to say that the larger the company he serves the more his work will be of a specialized secretarial nature, while the smaller the company the more various his activities become. In many instances he combines the work of secretary with that of office manager and accountant.

It will perhaps be most convenient for our purpose if we divide the duties of the secretary into three sections, namely as the company's agent, as registrar, and as business executive. The company will be bound by the

acts or representations of its secretary in two sets of circumstances, one consisting of those occasions when he is acting strictly within the scope of his duties, and the other comprising instances where his acts or statements, though not falling literally within the scope of his duty, have nevertheless been expressly authorized by the directors of the company. The company will not be bound by anything its secretary may say or do which is clearly beyond the scope of his duty, or for which he has not received express authority; and in such cases, therefore, the liability becomes a purely personal one of the secretary alone. He has no power to enter into contracts on his company's behalf unless he has been given clear authority to do so by his directors, or unless the contract is of an unimportant or frequently recurring character such as the engagement of an office junior. In signing documents, such as bills of exchange, it is most important that the secretary should make it perfectly clear that he is signing "for and on behalf of" the company, or otherwise he will render himself personally liable.

Regarding the secretary as a registrar, the duties placed upon him by various sections of the Companies Act, 1929, are both numerous and heavy. Examples of the kind of work involved, are keeping the share registers and transfer registers up-to-date, drawing up and filing with the Registrar of Companies (a Board of Trade official entrusted with the administration of the various Companies Acts) sundry documents and periodical returns, preparing and dispatching share certificates and warrants, dividend warrants, notices and reports; drafting agenda for board and other meetings; recording the minutes of these meetings; and acting as custodian of the company's official seal, without the affixing of which many of the company's documents would be invalid at law.

The third group of duties devolving on the secretary may be summed up under the heading of his work as a business executive. There are many firms in which the secretary must assume responsibility for the organization and control of the general office and its staff, and thus he holds a position of very definite executive importance in the business. Further, and quite apart from the book-keeping and statistical work for which he may also be responsible, the Income Tax Acts require the *secretary* of a company to make periodical returns to the Inland Revenue officials of the names, addresses and remuneration of all the company's employees.

Department Managers and their Staffs

Responsible though the post of department manager admittedly is, it cannot by its nature demand the simultaneous possession of such wide general knowledge and intimate mastery over business detail as is required of the managing director or secretary. He must, however, be an expert in the specialized work of his department. It is difficult to be more specific than this because the detailed work he is called upon to perform will obviously depend so largely upon the type of department he administers. Thus, if he is the head of some commodity department in a large wholesale or retail stores, he almost certainly will also be the buyer for that particular department and, as such, must undertake the difficult task of gauging the demand of the public whom he has to serve and then buying accordingly.

On account of the buyer's responsibility for the success of his department

as a whole, he is usually given a fairly free hand in its general organization ; except, of course, that he may have to work to predetermined limits as to the value of his monthly purchases, and must see that the activities of his department do not in any way conflict with the general policy of the business as a whole.

Should the business be organized according to the Functional method referred to in Lesson One, the department manager may well have control over one of the specialized functions of the business, for example publicity ; and in such event the need for specialized expert knowledge is even more self-evident.

But, in addition to the possession of expert knowledge and irrespective of the type of department controlled, no department manager can hope to be successful without one other highly important qualification. This, of course, is the ability to handle his staff so as always to secure their ready loyalty and efficient co-operation.

LESSON THREE

OFFICE ORGANIZATION AND METHODS

VERY little reflection is needed to arrive at a realization of the vital importance of sound organization and method in the office of any modern business firm.

Office activities may usually be classified under three headings ; first, administrative ; second, secretarial ; and third, accounting.

Office Administration

It is through the work of the general office that the separate functions of the various departments, buying, selling, accounting and so on, are co-ordinated and directed towards their ultimate consummation in the form of complete business transactions. These transactions are the outcome of a definite policy of the management, put into effect by deliberate *planning*. The management of a modern productive concern, for example, is not content to sit back and wait for orders to come in : it prepares beforehand careful estimates of production and sales, it draws up a detailed budget of costs and income, and it then issues the necessary instructions to all the different departments so that the ultimate individuals concerned—the various designers, store-keepers, buyers, foremen, inspectors, machine operators, sales representatives and accounting staff, and others—can rely on having the necessary data and material on which to work from day to day. The general office is the channel through which the detailed instructions necessary for the execution of that planning are distributed, and the instrument by which the results of the business are measured and interpreted in a form convenient for study by the management.

Lay-out of General Office

Fig. 3 shows in diagrammatic form the typical lay-out assumed by the general office of a commercial concern. The ample open floor space devoted to the body of the office should be especially noted : this is much more economical than having the various secretaries, assistants and clerks disposed

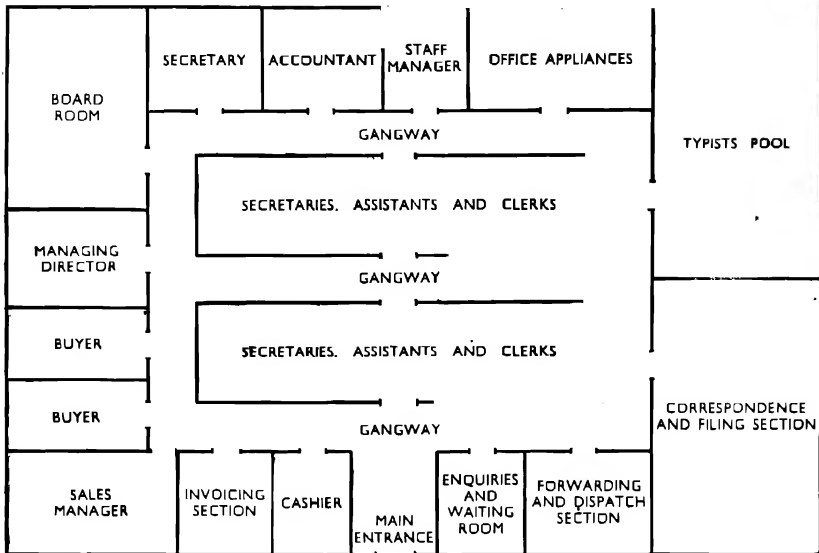


Fig. 3. Typical office lay-out of a general trading concern. The system of centralization employed eliminates wastage of space, time and labour.

in a number of separate smaller offices, since heating and lighting appliances do not have to be wastefully duplicated, and unnecessary corners and recesses are eliminated. Further, there is a gain in general efficiency because each member of the staff feels he or she is under general supervision all the time.

Other features worthy of attention in this diagram may be briefly summarized as follows :

1. Various sections are arranged as far as possible on a follow-on system to fit in with the natural flow of the work, e.g. from sales manager to invoicing section and then cashier, or from typists to correspondence section for filing, and then to forwarding and dispatch section.
2. Gangways permit easy access to employees at any point in the general office, yet are not wide enough to be wasteful of space.
3. Shorthand-typists are centralized under a pool system so that they can be sent to any department as required, and return to the general office for typing from their shorthand notes.
4. Office appliances, such as duplicators, adding machines and addressing machines, are also centralized as far as possible so that their use is not restricted to any one department.

Secretarial Work

In the course of Lesson Two reference was made to the work of the secretary as registrar of the company, and matters such as the preparation and dispatch of share certificates and dividend warrants were mentioned. While the secretary is, of course, the official responsible for seeing that these

matters are attended to correctly and at the right time, the actual detailed operations may take place in the general office through assistants and clerks controlled by his department.

It is fairly common practice to arrange for certain members of the correspondence section to arrive at the office earlier than other members of the staff, in order to deal with the mail that has already been collected from the post office. The routine work consists of

opening the letters, sorting them according to their contents, and then distributing them to the various departments of the business concerned.

All incoming letters should be over-stamped with a "received" date-stamp, as soon as they have been opened, and very often a small machine is used which will stamp the letters with consecutive numbers and often also with time of receipt so as to provide a means of checking up later on any missing mail. The use of mechanical aids for dealing with the incoming post, however, is limited to appliances of this kind and the letter opener (Fig. 4)

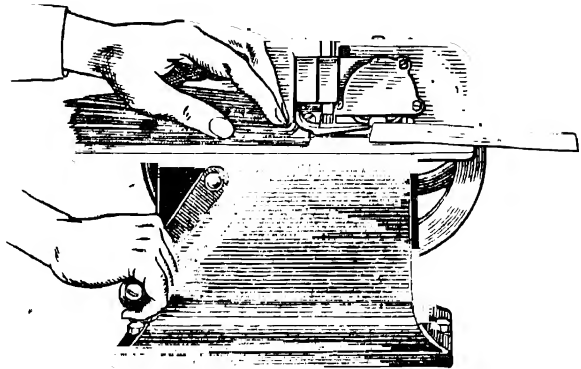


Fig. 4. *Mechanical letter opener capable of operating at a speed of 200 letters per minute.*

with the aid of which envelopes can be opened at the rate of 200 to 500 per minute through manual and electrical operation respectively.

It is hardly necessary to stress the importance of each department dealing with its correspondence immediately it is received, and if possible ensuring that a reply is dispatched on the same day. The replies will be dictated to shorthand typists, summoned from the typists' pool, who, on their return to the

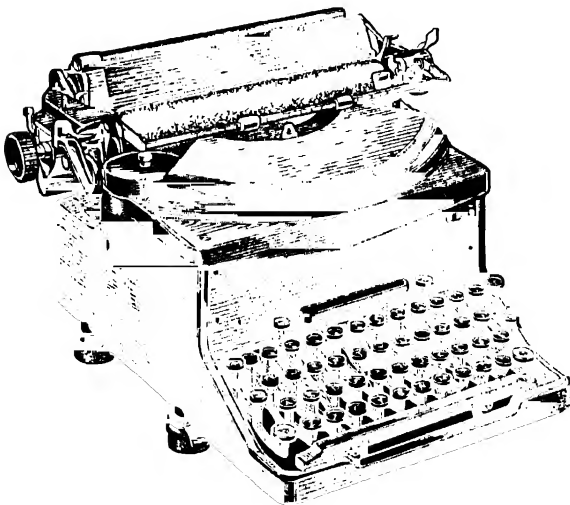


Fig. 5. *Noiseless typewriter which reduces sound to the barest minimum. It is a great asset in a busy office.*

general office will type the letters out with the required number of carbon copies. The replies are then signed or initialed by the responsible members of the departments concerned, and returned to the correspondence section where they are duly folded, inserted in envelopes, sealed and franked ready for posting. The filing of correspondence and replies is dealt with in Lesson Five.

Accounting

The accounting work of a typical modern business will consist not only of the making of book-keeping records in accordance with those particular adaptations of the double entry method that are appropriate to the business, but also of compiling a variety of purely statistical records. When properly compiled, such statistics afford the management an invaluable means of control over the activities of the business as well as a continuous check on any possible waste of material, effort or time.

LESSON FOUR

MECHANICAL AIDS TO OFFICE EFFICIENCY

It is possible to class office machines under two very comprehensive main heads, viz., general and numerical. Under the first of these classes we must include all mechanical aids to the written word, to the spoken word, and to miscellaneous office activities. The numerical class of mechanical aids will then comprise all machines concerned with figures and calculations, and it will of course be under this head that all accounting and statistical machinery will fall.

General Mechanical Aids

Typewriters. The typewriter has become so familiar an item of equipment in the office, that detailed description of this useful machine hardly seems called for at this point. Further information will be found in the section on typewriting, but it may be mentioned here that modern trends in typewriter development have been in two main directions; first, towards the elimination of noise

and other sources of fatigue to the operator, and second, towards the adaptation of the typewriter for other purposes than those connected with simple correspondence, e.g. invoicing, order-writing, and book-keeping. An illustration of a noiseless model typewriter is shown in Fig. 5.

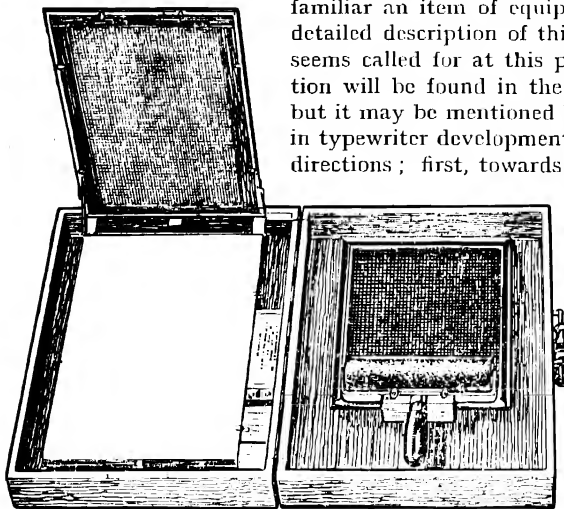
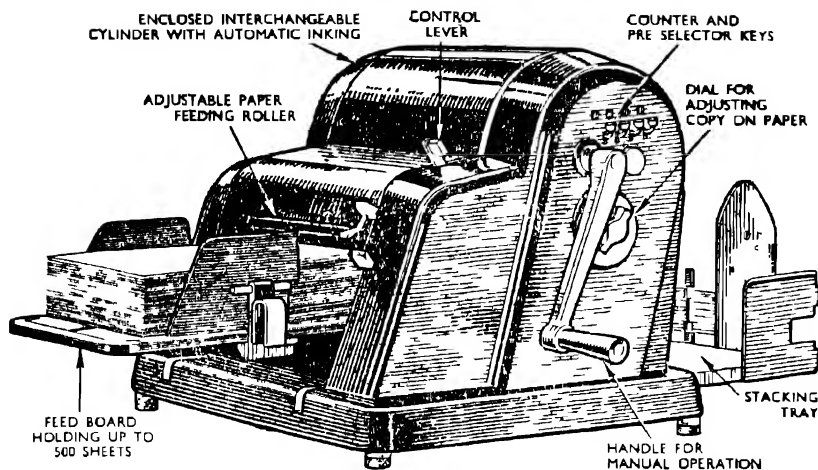
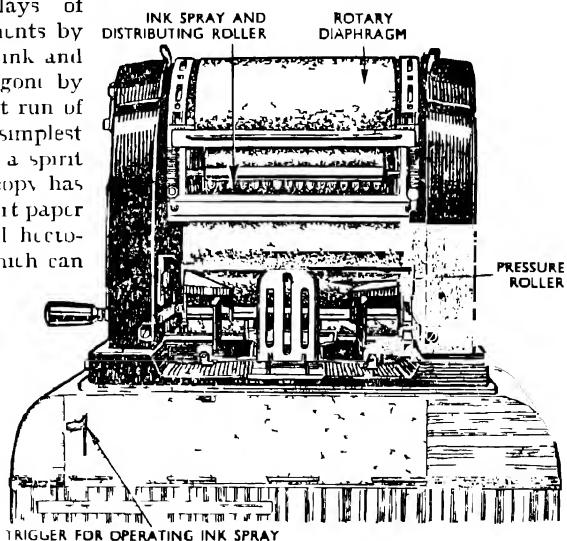


Fig. 6. Simple flatbed diaphragm duplicator.



Duplicators The days of taking copies of documents by means of hectographic ink and composition have long gone by and, where only a short run of copies is required, the simplest machine to use now is a spirit duplicator. A master copy has first to be prepared on art paper by employing a special hectograph carbon paper which can be obtained cheaply and in a variety of colours should multi coloured work be desired. The machine is simple and clean to operate and reproduces from the master copy with perfect accuracy and clarity up to a maximum of about 200 copies.

For longer runs the stencil method of duplicating retains its superiority. Stencil duplicators are either of the flatbed or rotary type. In the former (Fig. 6) an inked roller is passed over a silk diaphragm on the under side of which is attached a stencil of the matter to be duplicated. Pressure on the roller forces the ink through the diaphragm and stencil copy so that a



Figs. 7 and 8. Front and rear views of two up-to-date rotary duplicators which can be hand or electrically operated. Both are equipped with automatic inking and are capable of executing work in two or three colours.

reproduction is obtained on a sheet of absorbent paper previously placed on the bed of the machine. Rotary duplicators, if fitted with a self-feeding device and electrically operated, can speedily produce thousands of copies with the minimum of attention from the operator.

Modern machines provide for automatic inking, and devices that permit of two-colour or three-colour work being executed (Figs. 7 and 8).

Addressing machines.

The addressing machine can be employed for many more purposes than is suggested by its name alone: names, addresses, numbers, and any other constantly recurring information can be accurately reproduced. The particulars required are embossed on a metal

plate, or cut on a fibre stencil, according to the type of machine used; and a great advantage also is that these plates or stencils can be filed away, and used as records when not in the machine.

One of the best known of these machines (Fig. 9) uses embossed metal plates similar to that illustrated in Fig. 10. Larger models can, of course, be electrically operated, and the scope of their work is correspondingly increased.

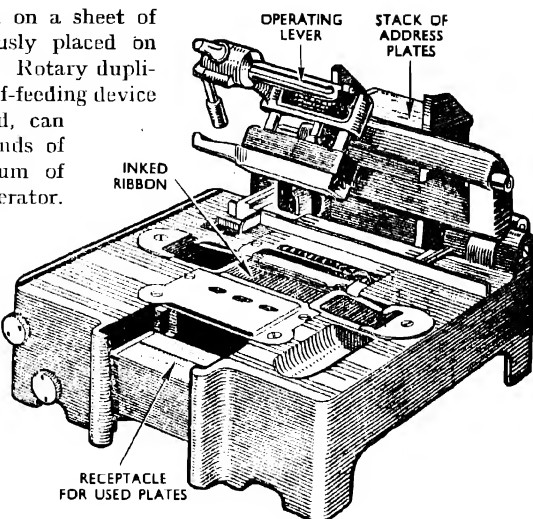


Fig. 9. For many purposes involving the reproduction of frequently needed information this Addressograph machine is eminently suitable. This is, of course, in addition to the normal use of the machine for the automatic addressing of envelopes.

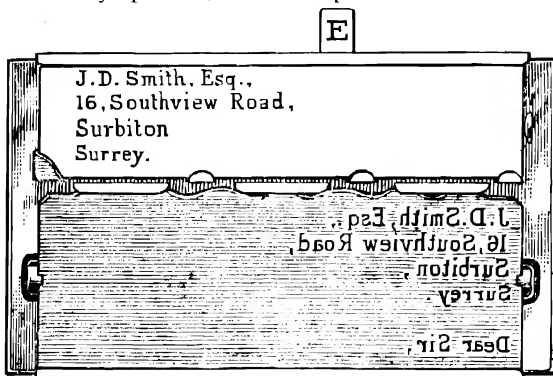


Fig. 10. Embossed plate for use with the Addressograph.

Printing machines.

Printing machinery which is capable of turning out a large quantity of work is expensive to instal, and therefore careful investigation should first be made of the cost of having such printing as is required done by an outside printing firm. If the volume of work is likely to be considerable, an office

printing machine will, however, be found to be a highly efficient and economical investment.

The machine illustrated (Fig. 11) is one of a type which is based upon the principle of offsetting from a photographic reproduction on a zinc or aluminium sheet. The metal sheets used on these machines are so thin and flexible that they can be fed through an ordinary typewriter and typed upon direct, if reproduction of simple typewritten matter is required. The sheets can be filed away and used over and over again, and copies can be run off at a rate of up to 6,000 per hour if the machine is electrically operated. The cost of each metal sheet, inclusive of any photographic reproduction required, is only a few shillings.

Telephones. Modern refinements and developments have immensely increased the value of the telephone to the busy managing director. With the aid of a Dictograph system, for example, he can call up and converse with

any departmental manager or similar official in any part of the premises, by merely lifting one of a row of keys on the master station illustrated in Fig. 12.

Although an earpiece is provided, this is used only if it is desired to keep the conversation private: normally the voice of the departmental manager, or whoever it may be, will be heard through the loudspeaker built into the instrument. Similarly, the transmitting part of the master station is sufficiently sensitive to allow the person at the other end of the line to hear the voice of the managing director perfectly distinctly, even though the latter is speaking quite naturally, perhaps, some distance away and not directly into any mouthpiece. By the

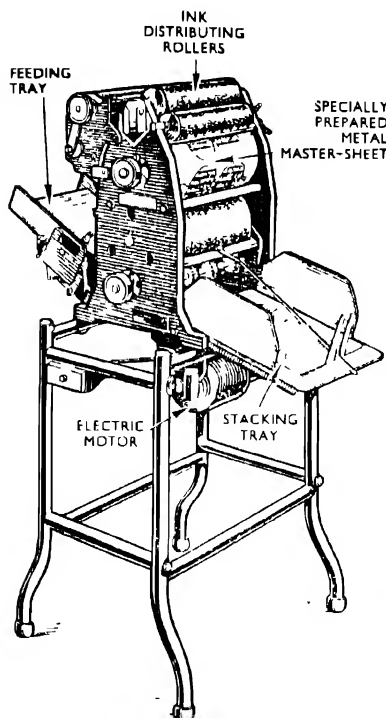


Fig. 11. Office printing machine based on the principle of offsetting from a photographic reproduction on a zinc or aluminium sheet. If the machine is electrically operated it will run off copies at the rate of 6,000 per hour.

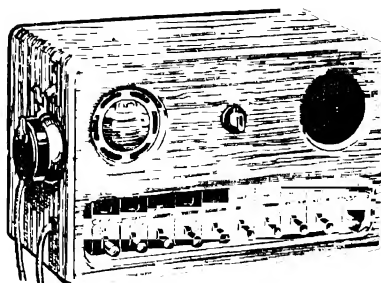


Fig. 12. Master station of a Dictograph system by means of which contact can be made with one or more departments or with all departments simultaneously.

lifting of other keys on the master station, other departments can be called up and join in the conversation, so that a regular conference can be conducted without the necessity for the chief or any of his subordinates to leave their separate offices. An automatic exchange makes all this possible without the need for a switchboard and operators.

Dictating machines. A dictating machine such as that shown in the accompanying illustration (Fig. 13) serves two main purposes. First, it will record letters or messages dictated into it, so that they can be typed out by a typist later on, thus eliminating the need for all short-hand note-taking; and second, it can be used privately by the business executive for the immediate recording at any time of ideas and schemes as they come into his head. The recording is made on cylinders, which can either be preserved permanently, or can be rapidly shaved by a special machine, so that they are ready for recording fresh matter. Another kind of machine, which is really an adaptation of the dictaphone system, will enable both sides of a telephone conversation to be recorded permanently by a similar process; while, with the use of a microphone and amplifier, the same machine can be used for recording every word spoken at

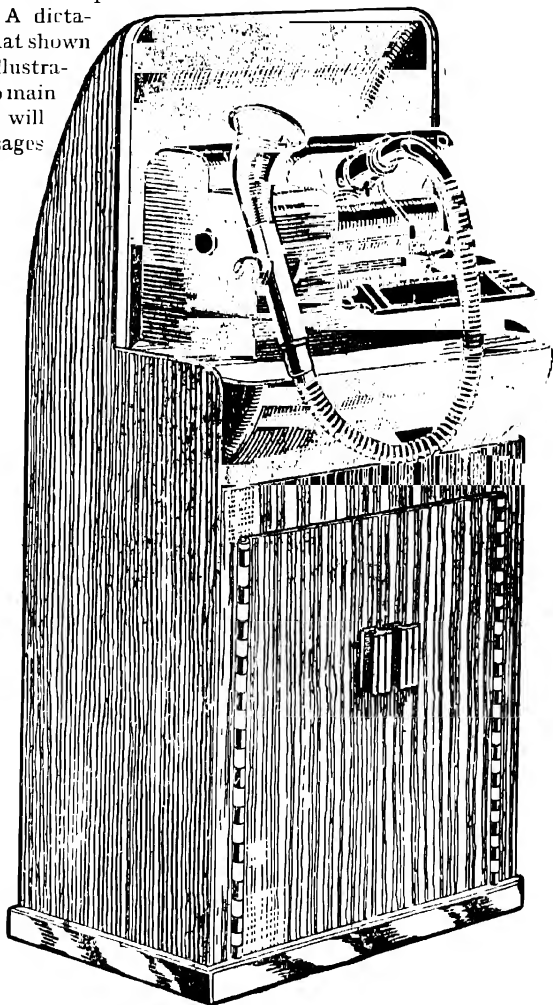
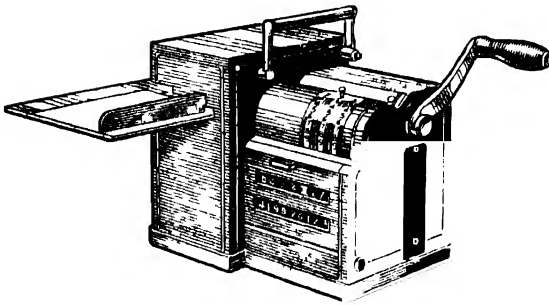


Fig. 13. Modern dictating machine which records on a cylinder any letters or messages dictated into it. If suitably adapted it will also enable both sides of a telephone conversation to be permanently recorded.



*The Universal
Multi-Value*
FOR LETTERS PARCELS
AIR MAIL, ETC.



Fig. 14. Postal franking machine When electrically operated it will deal with 4,000 envelopes per hour

board meetings and conferences.

Franking machines. If the volume of outward mail is large, it pays to instal a hand operated or electrically driven postal franking machine, which can easily cope with more than 4,000 envelopes or packets per hour (Fig. 14).

Envelope openers and sealers. An illustration of a letter opening machine has been given in Fig. 4.

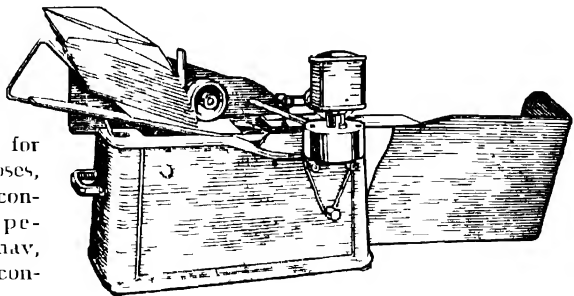
Fig. 15 shows a mechanized envelope sealer. The hand-driven model will electrically operated

seal about 1,800 envelopes per hour, and the larger machine up to 20,000 per hour.

Paper-fastening machines. Probably the most popular type of paper-fastening machine is the one that employs small ready-made metal staples, which are pushed through the sheets and then clunched together by the machine in one operation. This is a very useful machine and is capable of fastening together up to about thirty sheets of paper at a time. Larger models with special size staples, will fasten up to 100 sheets.

Numerical Mechanical Aids

Of the four main types of machines in this class, two, invoicing and book-keeping machines, were developed from the typewriter as a basis. The other two, calculating and statistical machines, were originally invented for mathematical purposes, and have no direct connexion with the typewriter, though they may, of course, be used in conjunction with it



Invoicing or Billing Machines. The idea behind

Fig. 15. Mechanized envelope sealer which may be either hand or electrically operated.

these machines is to combine into one operation the recording of all the forms concerned in a business transaction, e.g. invoice copy, delivery note, packing sheet (Fig. 16). This result is usually obtained by the use of continuous stationery, which, passing through the machine in the form of one long strip with necessary carbons already inserted, can afterwards be divided into separate sheets either by cutting or by tearing through previously made perforations.

Before these machines were placed on the market, the various documents had to be typed, or else written out by hand at least twice, in order to get the necessary number of copies; but an invoicing machine will now produce as many as ten clear copies at once. There is a great variety of these invoicing machines manufactured, some of which are provided with more than one ribbon, so that original and not carbon duplicate copies are obtained. Others, again, are designed to take forms of different sizes and to permit the removal of one or more of these forms from the machine without disturbance of the remainder. There are also electrically operated machines which afford yet further economies of time and effort in a busy office, since every character that is typed is automatically given a uniform impression, while the return of the carriage and the spacing of the lines in the invoice are also electrically controlled without effort on the part of the operator.

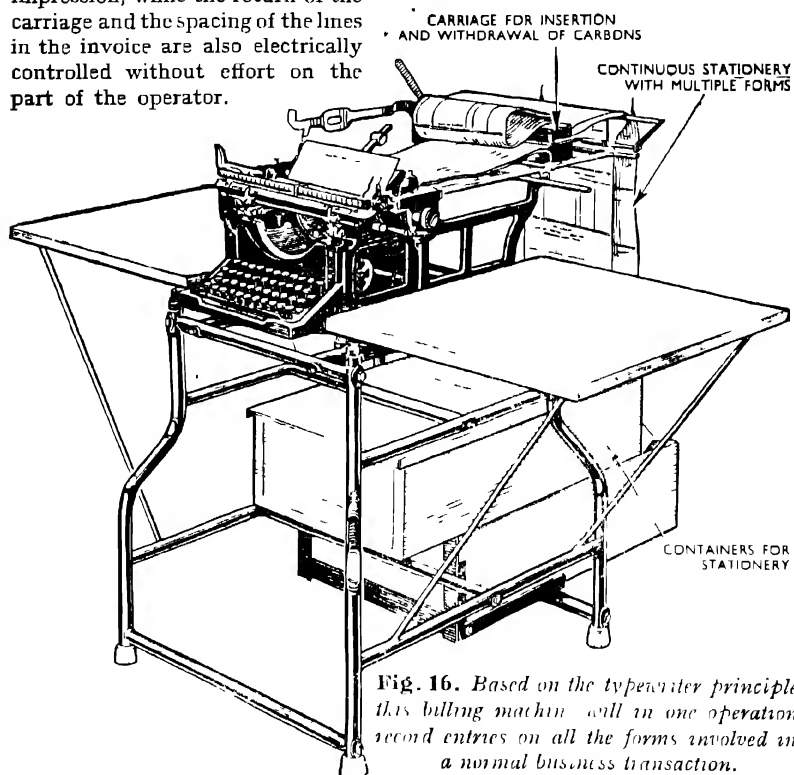


Fig. 16. Based on the typewriter principle this billing machine will in one operation record entries on all the forms involved in a normal business transaction.

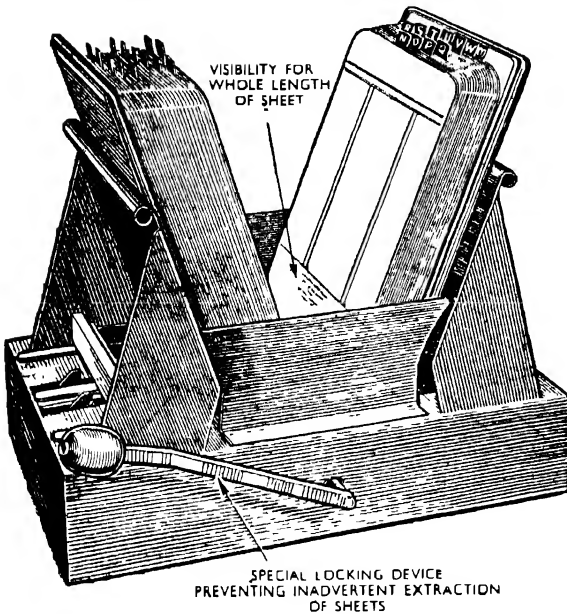


Fig. 17. *Special ledger posting equipment for use in conjunction with book-keeping machines. It helps to prevent the fraudulent or accidental extraction of individual ledger sheets.*

Loose-leaf ledgers are employed and special ledger-posting equipment is available to safeguard against fraudulent or accidental extraction or loss of separate sheets (Fig. 17). To meet instances where old-fashioned prejudices are very much against loose-leaf systems of any kind, there is one machine on the market (Fig. 18) which is specially designed to type the entries directly into a bound book.

The credit entries are posted by machine in a similar manner, but carbon copies of receipts or credit notes form the medium from which they are entered on to the ledger sheets. If the entries to be made concern firms from whom purchases have been made (i.e. if the "bought" ledger is being entered up), the credits are posted from the individual suppliers' invoices, and the debits from carbon copies of the cheques sent to these suppliers. The book-keeping machine simultaneously (a) gives a daily record and total of all the debits and credits, (b) enters these debits and credits on to both ledger sheets and statements, (c) automatically adds the debits and subtracts the credits, so that both ledger sheets and statements show the actual balance outstanding from day to day, and (d) does all this with one hundred per cent accuracy and legibility.

Calculating machines. Other calculations besides simple addition, subtraction, multiplication and division, can be performed by machines, e.g.

Book-keeping machines. Here again the variety of machines manufactured is surprisingly large, but all incorporate the principle of building up and recording cumulative totals from the individual postings as they are made on the machine. The typical method of procedure for recording sales to customers may be described as follows. To effect the debit entries, the book-keeping machine operator is provided with carbon copies of the various invoices, and from these, in one operation, she enters the appropriate details and amounts simultaneously on to ledger sheet, statement, and proof sheet.

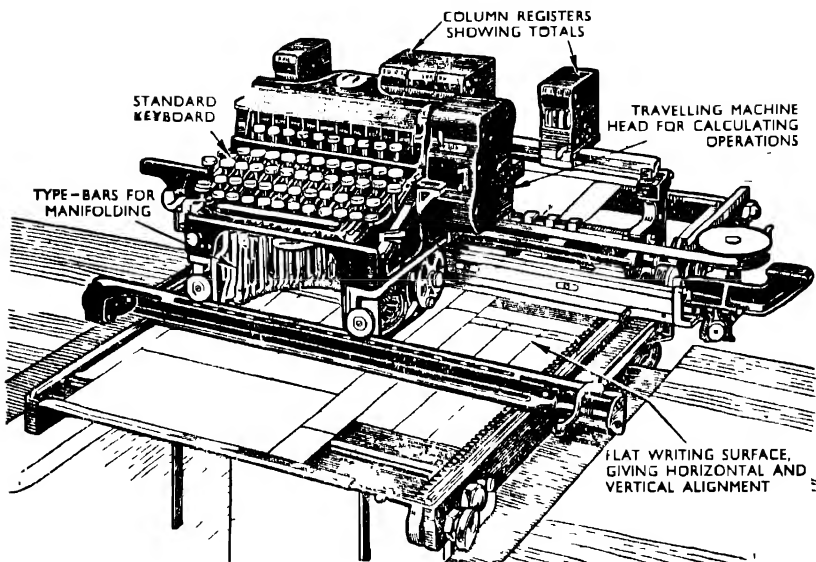


Fig. 18. For those who do not favour a loose-leaf system this specially designed book-keeping machine will type entries direct into a bound book.

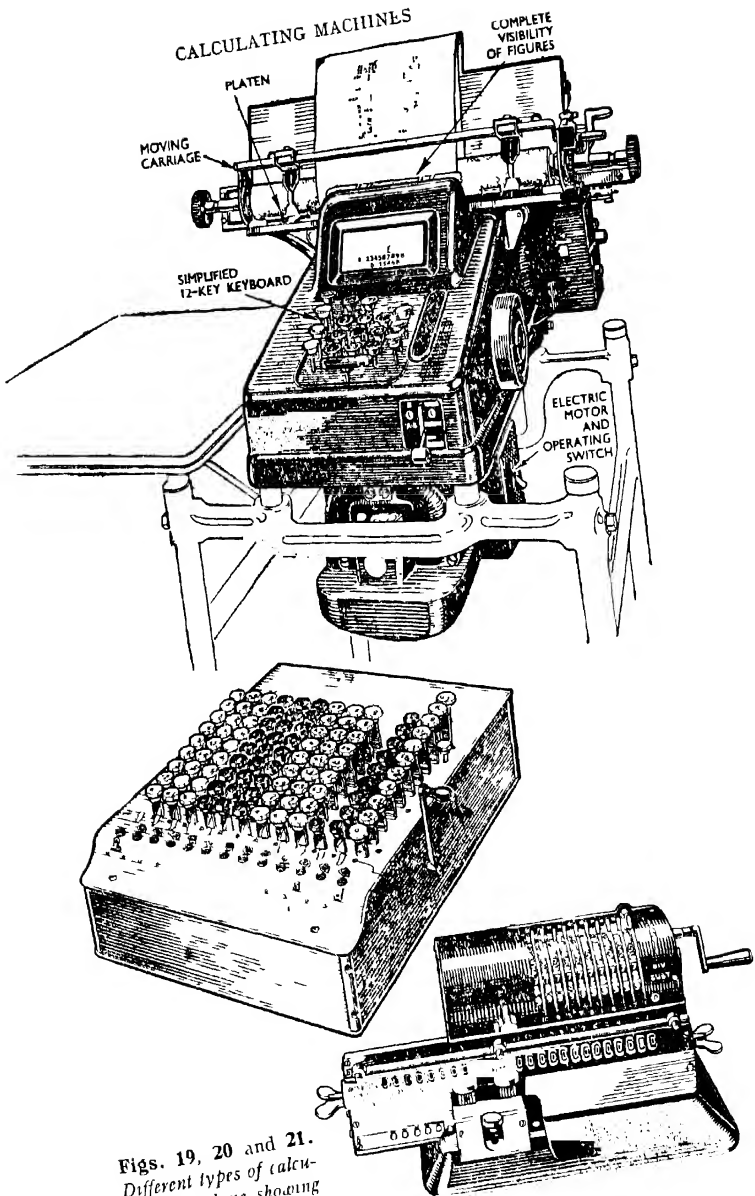
percentages, currency conversions at given rates of exchange, and engineering formulae, including calculation of square and cube roots.

Figs. 19, 20 and 21 afford good examples of the variety of design encountered. All the types of machine, however, intricate and ingenious though they undoubtedly are, themselves merely apply and operate upon fundamental arithmetical principles; and though they are real economizers of mental effort, they do—like all machinery, if it is to function satisfactorily—require intelligent operation.

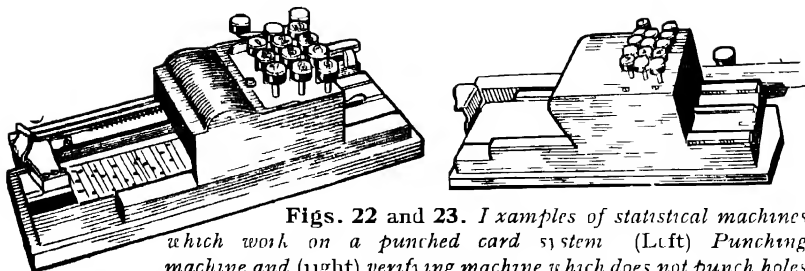
Statistical machines. These machines operate on a punched card system. A complete installation will consist of at least four different machines. First there is the punching machine (see Fig. 22, page 24) which is usually operated by a girl, whose task is to transfer the relevant details given to her on to the cards by means of punching holes through them in certain specific positions, each position having a definite meaning assigned to it.

Thus for example, a card is punched to show (among other details) the following information concerning the installation of a radio set by an important radio-renting concern: Branch No. 10 has supplied the set, the rental plan (i.e. how much and how often rental is to be paid to the firm) is No. 304, the installation was made on 29th March, 1945, the Registered No. of the set is D. 5991, and so on. Having been punched, the card is passed on to a verifying operator who checks it by means of a machine similar to that shown in Fig. 23.

This machine does not actually punch holes in the card, but simply acts as a means of checking the correctness of the first operator's work, so that if



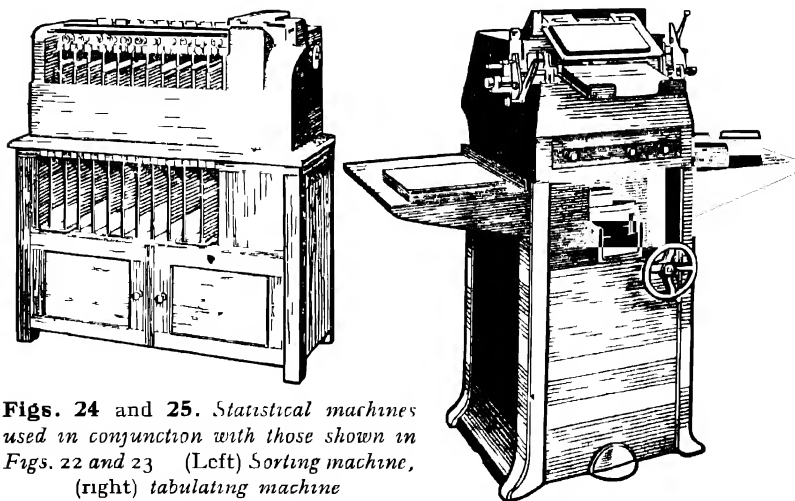
Figs. 19, 20 and 21.
Different types of calculating machine showing the variation in design.



Figs. 22 and 23. *Examples of statistical machines which work on a punched card system (Left) Punching machine and (right) verifying machine which does not punch holes but merely checks the work of the operator of the punching machine*

a hole has been wrongly punched, the verifying machine locks and will not pass the card, which must then be rejected. After punching and verifying the cards represent complete and accurate information in a form that can be handled by the two remaining machines known as the sorter and tabulator respectively (Figs. 24 and 25).

The sorting machine in particular is simple to operate. Suppose, to continue with the same illustration, it is desired to discover the total number of radio sets in the whole country installed by the firm on 29th March, 1945, the cards are all stacked in the sorter, which is then set to throw out all the 1945 cards and pass the remainder. Having been once set and started, the machine can be left to itself and will perform its work with speed and un-failing precision, only stopping of its own accord when the sort has been completed. The 1945 cards are now stacked in the machine, and this is re-set to throw out all the cards on which the month of March has been punched. On the completion of this sorting the March, 1945 cards are stacked into the machine, which is then set for the final sort in order to



Figs. 24 and 25. *Statistical machines used in conjunction with those shown in Figs. 22 and 23 (Left) Sorting machine, (right) tabulating machine*

extract all the cards which are punched for the 29th of the month.

The final machine through which the sorted cards pass is the tabulator, which, after having been set by the operator, will mechanically translate and print the information required from the cards at a speed of eighty cards per minute. Where necessary, this machine will add or subtract, give sub-totals and grand totals, list balances and print words and names at the same time.

The two best makes of these statistical machines, though they both employ the punched card system, operate in entirely different ways, one being designed to work upon mechanical principles and the other depending upon electrical contacts for effecting the figure selection and sorting processes.

LESSON FIVE

MAKING AND KEEPING OF RECORDS

THE greatly increased speed and volume of business transactions to-day, have focused attention upon two outstanding requirements for any efficient system of business records : first, the records must be *accurate* ; and second, they must permit of *easy and rapid reference*. Inaccurate records are worse than useless, for they will only confuse and mislead whoever consults them, while records which are difficult to refer to cause constant irritation and involve much waste of time and possible loss of business.

Filing of Correspondence

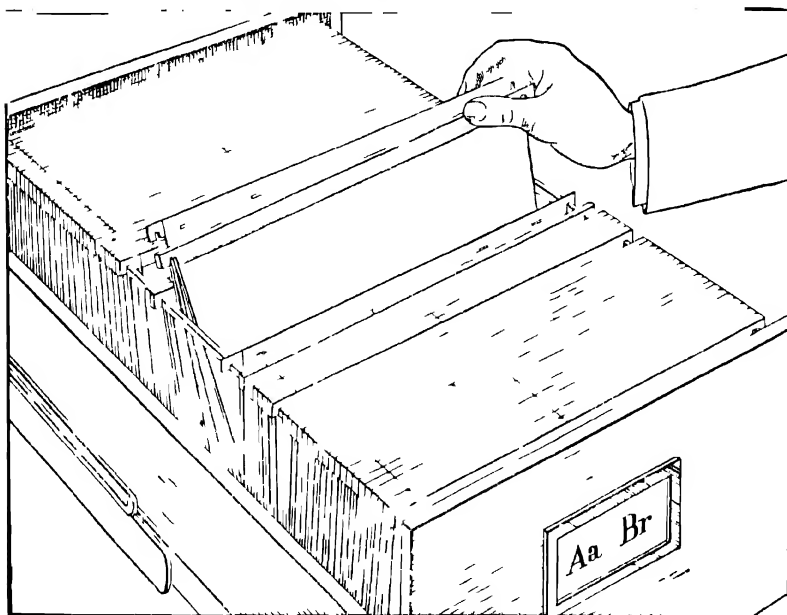
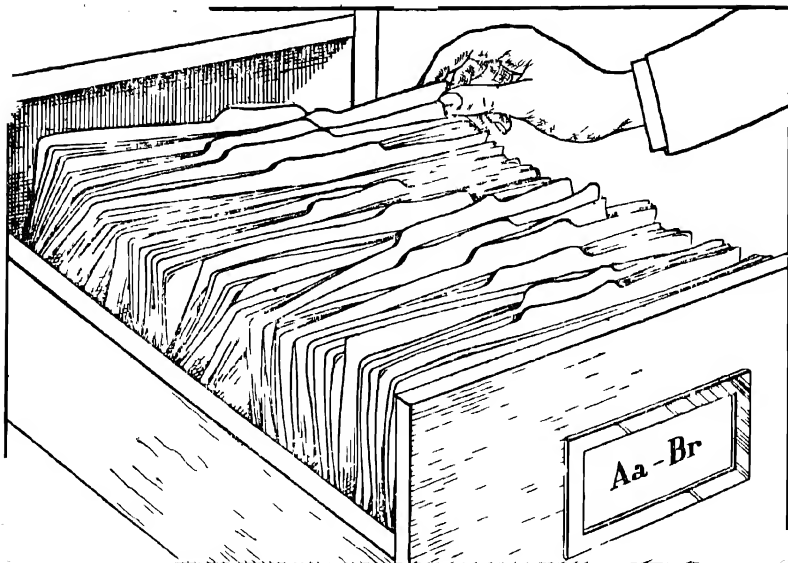
Vertical filing has so clearly demonstrated its immense superiority over most other methods of storing correspondence for reference purposes, that it is to-day acknowledged to be one of the best systems of filing really worthy of installation by the typical modern business.

Fundamentally, vertical filing consists of storing the documents concerned (letters, invoices, etc.) on edge inside folders or files arranged in drawers either alphabetically or according to some other predetermined system of classification. The method of classification or indexing actually employed deserves the most careful consideration since it is perhaps the main factor conditioning the speed with which the filing clerk can produce any particular file that may be called for. The modern filing cabinet is usually constructed of steel rather than wood and has ball or roller bearings for its drawers, so that no matter how weighty their contents may be they will open or close smoothly and quietly almost at a mere touch of the finger.

Vertical Suspension Visible Filing Systems

One of the difficulties experienced with vertical filing in the past has been that the tabs of the guide cards, inserted to facilitate rapid reference, and the tops of the folders themselves tend to become bent and dog-eared in appearance (Fig. 26) as the result of constant thumbing over. The new systems of suspended visible filing overcome this drawback and are both neater in appearance and more efficient in action than the older vertical filing methods. Fig. 26A gives a general idea of the improvement effected.

It will be seen that in the latter system the folders of letters or any other



Figs. 26 and 26A. (16011) Old method of vertical filing after considerable use
(Below) Modern vertical suspension visible filing

documents are contained in manila pockets of which the upper, open, edges are clipped into metal holders or channels suspended from side rails running along the length of the drawer. These channels, on the upper flat surface of which the names of correspondents, etc., are indexed, thus slide along the side rails and always keep the pockets holding the folders of correspondence truly vertical. New pockets can easily be inserted at any point, so that strict alphabetical or any other order can be constantly maintained. The upper surfaces of the channels are perfectly flat and are covered with a hard-wearing transparent protector under which the slips of paper bearing the typewritten names of correspondents or other details are inserted.

Indexing Systems

Records when made and stored must also be properly indexed or their value for reference purposes will be seriously diminished. The systems of indexing are either the alphabetical or the numerical or a combination of the two; though it is, of course, also possible to index on a geographical or a subject basis.

Alphabetical. This consists of arranging folders bearing the names of correspondents in strict alphabetical order behind lettered guide cards. Thus folders for Aaronsen, Abbey and Abbot would all come in that sequence behind the guide card lettered A, and so on. Difficulties are usually experienced with names such as Smith. One way of overcoming this is to subdivide the Smiths on a geographical basis, the Smiths of Bermondsey coming before those of Camberwell and so on. Another way is to allot to each correspondent a distinctive number, and to file their letters under these numbers instead of under their names; but this is really an adaptation of the numerical system of indexing to be next described.

Numerical. This is really a more scientific and exact system than the alphabetical, but it necessitates the use of another index—either card or strip (see below)—in conjunction. Each correspondent is allotted an identification number, which is then placed on the tab of the folder intended for his correspondence as well as on the actual letters themselves. The folders are then filed away in the usual manner in strict numerical order behind numbered guide cards, inserted at every tenth or twentieth folder in order to facilitate reference. A separate card or strip index is employed to help the filing clerk relate the correspondent's number to his name, address and any other relevant details; but in practice it is found that, with frequent and regular use, a number becomes so closely associated with the name of a particular correspondent that reference to the card or strip index is unnecessary in many instances.

The numerical system is particularly suitable for firms such as engineering or building concerns, who usually file all correspondence affecting one particular contract or job under one number. For example, No. 3603 might refer to a contract for 10,000 prefabricated houses for the Blankshire County Council, under which head various subdivisions would be necessary. Thus, 3603/1 might concern the firm supplying pressed steel wall members, 3603/2 the firm responsible for the refrigerating apparatus, and so on. By this means a system of cross-referencing can be established which will enable the filing clerk to lay hands upon any particular document she may be asked for.

In the above example, for instance, the card or strip index in addition to recording Blankshire County Council Housing Contract—3603 would also show on the same card or strip, wall members, steel—3603/1; refrigerating system—3603/2; while separate cards or strips would be made out for each subdivision, so that the card or strip for wall members (steel) would show Blankshire County Council Housing Contract—3603/1; Southbeach Corporation Estate—765/11—together with the names and numbers of any other contracts in which pressed steel wall members were employed.

Strip Index

The strip index is really the simplest form of visible record, and tests have definitely proved it to be at least 85 per cent faster for reference than the card index. Fig. 27 shows a typical strip index equipment, and Fig. 28 illustrates three of the many purposes for which it can be adapted.

The individual strips consist of some flexible backing material, either steel or wood, with a transparent protective covering through which shows the actual paper strip bearing the information previously typed thereon. Signalling devices, consisting of coloured celluloid tabs, can be incorporated and slid along the strips to any desired position, in order to draw attention to some important fact. Thus a strip might bear twelve divisions, one for each month of the year, and a red tab showing on the May division might signify that that particular customer had made no payment on account since that month.

Visible Record System

There are of course many different makes of visible recording equipment, but the principle behind all of them consists of hinging the cards in frames or trays in such a manner that each record overlaps the next except for about a quarter of an inch of its lower portion. Upon this visible lower edge is written or typed the name and address or the subject-matter of the

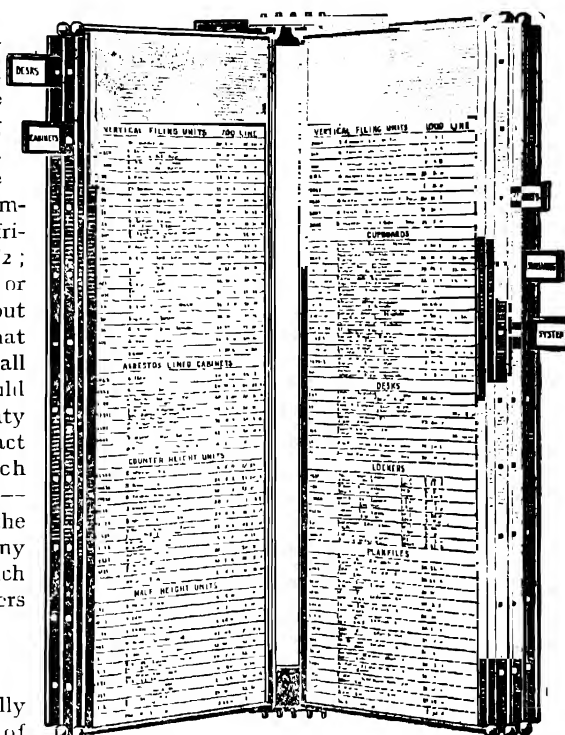


Fig. 27. Strip index visible record affixed to wall.

record, so that in one tray anything up to about 300 card titles may be made instantly visible by the simple operation of just pulling the tray out of its container

Fresh cards can be inserted in their correct alphabetical order, and the actual recording can be done far more quickly than with the ordinary card index. A glance down the visible titles and the card required is immediately located, then a flick of the finger and the whole record is exposed ready to be written upon without removal from its housing, as shown in Fig. 29.

In addition to these advantages various indicating or signalling devices,

TELEPHONE DIRECTORY

Salmon, A. G.	89, Parkhurst Rd., N	North	295
Scott, J. H.	281, Regent St., W	Mayfair	2779
Seddon, W. E. & Co	3 Cross Lane, E.C. 3	Royal	1967
Shaw, Stanley G	165, York Rd., N.7	North	2869
Simpson, E. P.	5, Durham Villas, W	Park	4168
Smith, P. P.	47, Gutter Lane, E. C	Central	5498
Tann, J. L.	27, Landford Rd., S. W	Putney	2739
Tate, Alfred O	32, St. James St., S. W	Regent	3503

OUTSTANDING ORDER RECORD

Order Date	Order No.	Name and Details	Date Promsd.
1.6.39	3159	Addison & Sons Ltd. 10 Reams of White Linene	16.6.39
2.6.39	3170	Neve & Sons Ltd. 5,000 Cards Qto.	23.6.39
5.6.39	3199	Darrington & Co. 2,500 Cards 6 x 4	18.6.39

CUSTOMERS RECORD

with Signals to show month of last purchase

JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
Gardner & Son & Brown Ltd. Dist. 14						83, Charing Cross Road, S.W.					
Godfrey & Lewis Ltd. Dist. 25				Roberts		232, Summer Street, S. E.					
Gray Bros. & Co. Ltd. Dist. 9				Roberts		165, Coleman Street, E. C. 2.					
Harris, W. J. & Co. Dist. 15				Haywood		15, Bedford Row, W. C. 1.					
Haywood, J. E.						101, Lombard Building, F.C.					

Fig. 28. Three of the many uses for which a strip index may be adapted.

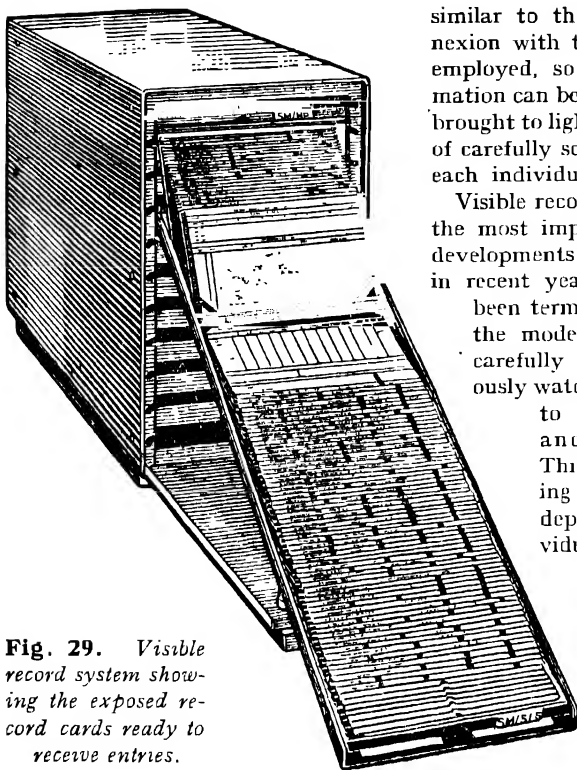


Fig. 29. *Visible record system showing the exposed record cards ready to receive entries.*

similar to those mentioned in connexion with the strip index, can be employed, so that important information can be classified and instantly brought to light without the necessity of carefully scrutinizing the whole of each individual record.

Visible record systems form one of the most important and interesting developments in office equipment in recent years. They have aptly been termed "the dash-board of the modern business" since, if carefully kept and conscientiously watched, they enable a firm

to progress more rapidly and yet with safety. Through them, the managing director or responsible departmental head is provided with a valuable and highly sensitive instrument of control over his various business activities: he can actually *see*, quickly and clearly, just where there is some slackness or inefficiency in the

office, or where there is a danger of a "bottleneck" occurring in the works.

Micro-copying and its Commercial Uses

Micro-copying consists of taking a photograph of the original document on miniature cinematograph film so that it is reduced to less than postage-stamp size. Whenever desired, the film is projected by special apparatus on to a translucent screen, and then appears as an enlarged reproduction of the original. Since the film used is colour-sensitive, the reproductions will show any coloured matter according to the relative brightness of the original shades.

EXERCISES FOR PRACTICE

These exercises are based on the lessons in this section.

1. Discuss the respective advantages of the departmental and sectional methods of organization of a business unit.
2. Tabulate the main duties of (a) the directors and (b) the secretary of a company.
3. State the advantages and disadvantages of the chief methods of indexing.
4. What are your views upon the statement that machine accountancy is one of the greatest boons in a modern office?

SECTION II

ENGLISH AND COMMERCIAL CORRESPONDENCE

LESSON ONE

WORDS

ENGLISH is a language so rich in words that there should be no difficulty in giving adequate expression to any thought. For instance, the idea contained in the phrase, "That man will become famous" could be expressed in a variety of ways. Here are a few: "That man's name will be a household word in time;" "All the world will hear of that man in due course;" "That man's name will resound throughout the universe."

This elasticity of expression is within reach of everyone who is prepared to study English seriously, and to acquire a sufficiently extensive vocabulary to express himself with exactness and precision.

Most people have within them thoughts that are worth while, but in order to divulge them to others they must use the medium of words. If a friend has lost a dear one it is possible to indicate sympathy simply by clasping his hand. Again, a foreigner may, by means of signs, show that he is hungry. Generally speaking, however, thought must be conveyed to another mind through the channel of words. Words are delicate tools, and unless a man is master of them it is easy to convey the wrong impression.

In the morning it is reported that Mr. Jones is ill. By the end of the day he is said to be dying. The actual fact may be that he has a bad cold. The conclusion one reaches is that some person has been guilty of exaggeration or even of lying, but it may not be so. Probably the account of the indisposition was passed from mouth to mouth by people who were careless in their choice of words so that a totally wrong conception was given of the nature of the illness.

To be a master in the use of words it is not enough to be satisfied with a vague, general idea of their meaning. Their *precise* signification must be understood. The source of the word should also be known; how it passed into the language; and whether it has changed its meaning in the course of time. A study of pronunciation must also be undertaken. With such knowledge it would be difficult to use a word incorrectly. The study of words and their meanings is both fascinating and interesting.

Often the same word has different meanings. Take, for example, the word *weeds*. Everyone knows the weeds that will persist in growing in a garden. Cowper, however, in one of his poems refers to the "pernicious weed" and by that expression he implies tobacco. Shakespeare, in *Timon of Athens*, has the line "Hail, Rome, victorious in thy mourning weeds," using the word, as it is often heard, as a mourning garment.

When people have lazy brains they overwork certain words. One such example is *nice*. They talk of a nice hat, a nice dinner, a nice man, a nice day, a nice garden. Thus they save themselves the trouble of finding the correct word which they need to convey their thought. *Thrilling, terrific,*

awful, are other words called upon too frequently. *Awful* means awe inspiring, so that if it is said that Sunday was an awful day, when what is really meant is that it was a rainy day, then it is obvious that a good word is being misused.

Synonym. A synonym is a word having the same meaning as another word. Examples: *desire* and *wish*; *up-to-date* and *modern*; *require* and *want*; *holiday* and *vacation*. These synonyms are very useful when a composition is being written as they help to avoid monotony of expression. There are, however, experts who go so far as to say that there are no such things as synonyms, maintaining that there is a slight difference of meaning, which however imperceptible to the ordinary person, is apparent to the master of English.

However debatable that contention may be, it emphasizes the point that if we wish to be exact in conveying our thoughts we cannot afford to be clumsy in our selection of words. Words are like the surgeon's instruments, sharp and delicate; they must be used with care.

A man was heard to say that he was going to eradicate a stain from his coat. *Eradicate* means to pull up by the roots. A stain on one's coat has no roots; therefore the word was badly chosen. It would have been better to have employed the word *remove*.

It is interesting to note the large number of words and phrases which approximately cover this action:

remove, eradicate, abolish, expunge, delete, get rid of, extinguish, clear away, root out, obliterate, erase, cancel, take out, blot out, scratch out, strike out, wash out, wipe out, do away with, extirpate.

The careful writer of English will go to great pains to select the *precise* word to fit the case. He will not be content with the first approximate substitute that comes into his mind.

Antonyms. An antonym is a word of opposite meaning. *Bright* is the antonym of *dull*; *soft* of *hard*. Very often quite a diplomatic effect can be introduced by the use of an antonym. Thus, instead of saying that Mrs. Smith is a stout woman it might be more agreeable to say that Mrs. Smith is not slim.

Homonyms. These are words which have the same sound but a different meaning, such as:

suite and *sweet*; *piece* and *peace*; *principal* and *principle*.

It is largely a question of habit whether our sentences are exact and expressive of the thought in our minds, or whether they are slovenly and haphazard. If trouble is taken on each occasion when we write, and we are determined to be satisfied only with the words that precisely convey our meaning, then it will not be long before it will be difficult to use words carelessly.

There are two books which the student should keep on his desk for handy reference. The first is a standard dictionary, and the second is Roget's *Thesaurus of English Words and Phrases*.

Words sometimes change their meaning in the course of time. To-day, if a man is said to be peculiar it is understood that he is eccentric. When we read in the Bible that the Children of Israel were a peculiar people, however, it must be remembered that *peculiar* meant quite another thing at the

time the phrase was written. It meant that they were distinct from the other races, with different ideals and aspirations.

SELF-TESTING QUESTIONS AND EXERCISES

1. Write sentences to show clearly the difference between the following pairs of words :

Principal, principle ; ingenuous, ingenious ; voracious, veracious ; elusive, illusive ; septic, sceptic ; consuls, consols ; alter, altar ; sweet, suite ; peace, piece ; relevant, reverent ; root, route.

2. We speak of a *flock* of sheep. What is the correct way of expressing a number of :

Police, kittens, fish, flowers, partridges, quails, herrings, hounds, worshippers in a church, natives, cattle, antelopes, bees, feathers.

3. Listen to a talk on the radio and write down all words that you have never used ; then look up their exact meanings in a dictionary and write a sentence embodying each one.

4. Study the following simple statements and in each case re-write the sentence in as many different ways as you can :

(a) I was not impressed by the summer we had last year. (b) I do not like rice pudding. (c) Politeness is the lubrication of life. (d) A rolling stone gathers no moss. (e) She is afraid of cows. (f) I intend, by hard work, to be successful in the examination.

5. Explain exactly what you understand by the following :

(a) The game is not worth the candle. (b) Beauty is only skin deep. (c) Never put the cart before the horse. (d) Love laughs at locksmiths. (e) Punctuality is the politeness of princes.

6. Write a synonym for each of the following words :

(a) brave, (b) insignificant, (c) paradise, (d) scent, (e) exaggerate, (f) old, (g) sailor, (h) catastrophe, (i) occur, (j) mendicant, (k) agile, (l) out-of-date, (m) dull, (n) liberty, (o) fortunate, (p) brilliant.

The answers to the questions are on page 68.

LESSON TWO

PUNCTUATION

WHEN we are speaking, we can, by inflexion of the voice and by pauses, give exactly the right shade of meaning to what we have to say. In writing, however, we are forced to rely upon punctuation. A writer strives to punctuate his work so that it will be readily understood by the reader. Hence, it is important that the aspirant to successful writing should thoroughly understand the rules which govern punctuation.

The Comma (,) is the sign employed to indicate the shortest pause between words or groups of words. It is used :

- (a) To separate statements, as

The radiator, complete with an ample supply of flexible wire, painted in either brown or cream, can be bought for 11 guineas.

The soldiers, fully laden with their battle equipment, began, after a brief interval, to eat ravenously.

- (b) To separate a series of words of the same part of speech, as

The *S.S. Browning* carried a cargo of tinplate, galvanized piping, coal, etc.

I received for my birthday a bat, a tennis racquet, three books, a new bicycle and a fountain pen.

- (c) When defining words which have preceded, as

Captain Brown, the chairman, then addressed the meeting.

Joseph, the postman, is to retire next August.

Captain Smith, a veteran of the last war, was on the platform.

- (d) After certain adverbs used to commence a sentence, as

Finally, I wish to announce that there will be a holiday next Tuesday.

In addition, advertising matter will be supplied with all goods.

Further, goods cannot be accepted unless accompanied by a delivery note.

It should be noted that when these words occur in the middle of a sentence a comma is required both before and after them, as

It will be necessary, therefore, to reach the next village before dusk.

It should be mentioned, too, that prompt delivery is essential.

- (e) As a substitute for *and*, as

I went, I saw, I was convinced.

- (f) After addressing a person by name, as

John, may I borrow your penknife?

- (g) To separate adjectives or adverbs which qualify the same words, as

I can recommend him as a painstaking, punctual, reliable and energetic man.

He speaks quietly, courteously, grammatically and wittily.

- (h) Before such words as *namely*, *viz.*, *e.g.*, *i.e.*, when examples follow, as

The train will pass certain stations, namely Brownville, Saxton and Salport.

The *Semicolon* (;) is used when a rather longer pause is implied than that suggested by a comma. It is used:

- (a) To separate clauses in sentences when it is intended to give equal emphasis to each of them, as

The boxers faced each other; they shook hands in the formal manner; they hesitated for a second and then commenced to fight.

I am monarch of all I survey;

My right there is none to dispute;

From the centre all round to the sea

I am lord of the fowl and the brute.

- (b) In such cases as

Books are always available at his home. In the morning there are books on the dressing table; in the afternoon, at tea, books lie on every table; in the evening there are books to interest you as you warm your toes by the log fire.

The *Colon* (:) is the longest division with the exception of the full stop. It is chiefly used:

- (a) To introduce an after-thought, an enlargement or an expansion.

Schoolboys are noisy: they always have been.

- (b) For dialogue.

Tom : Follow me, sir !

Stranger : But can I trust you ?

Tom : Whether you trust me or not you cannot find your way without my help.

- (c) To make a division when a full stop is deemed too long, as

For them no more the blazing hearth shall burn

Or busy housewife ply her evening care :

No children run to lisp their sire's return,

Or climb his knees the envied kiss to share.

- (d) To introduce a series, as

The aquarium had many types of fish : bream, carp, conger eels and trout.

- (e) Before a direct quotation, as

My father replied : " Clean your shoes immediately ! "

The Full Stop (.) indicates the longest pause between words.

- (a) It marks the end of a sentence which does not close with a note of exclamation or of interrogation.

- (b) It is used after abbreviations, as

Esq., M.A. The Typewriter Co., Ltd.

- (c) The use is often made of a series of stops (usually three and known as ellipses) to indicate that words have been omitted, as

The manager gave a talk to his salesmen on " They also serve . . . and wait."

In addition to the above four named principal stops there are several other marks which at times will be used :

Interrogation or Question Mark (?) at the end of a question, as

What time is it ?

May I have the next dance with you ?

Will you please send samples of printed fabrics ?

It should be noted that any sentence beginning with the words,

" Will you . . . " needs a question mark at the end.

The question mark is *not* required in indirect speech, as

He asked whether it would be possible to obtain a new bat.

It will sometimes be noticed that after a sentence a question mark appears enclosed in brackets. This suggests that the preceding word or statement is of doubtful accuracy.

Exclamation Mark (!) to indicate a remark, an interjection, or a statement that causes surprise or demands attention, as

Good gracious !

Hear ! Hear !

Wretch ! *this* is your gratitude !

Give me strength !

Hark ! the lark !

The Dash (—) used

- (a) When there is a break or an abrupt stop occurs, as

He handed the umbrella to the lady—the same lady who had shared the taxi.

It was early morning—a perfect April morning—when he commenced his journey.

- (b) Sometimes the dash is used instead of brackets, as

I am sending a cheque for £10—ten pounds—receipt of which kindly acknowledge.

- (c) When an enumeration follows, as

He had everything he needed—clothes, food, money, etc.

- (d) To indicate hesitancy in speech, as

We—er—er are gathered—er—er here to-night . . .

Care should be taken not to use the dash when a comma or a semi-colon would meet the case.

The Long Dash (—) denotes a word or part of a word which it is undesirable to print :

He called him a —.

Also when a sentence is incomplete or unfinished :

Everything depends on — but we must not anticipate difficulties in a relatively unimportant matter.

The Apostrophe (') (a) To indicate possession, as

This is Fred's dog.

Brown & White's new premises.

The girls' playground.

- (b) To indicate letters omitted in contractions, as

I *can't* come to see you.

He'll never gain the prize.

My mother is suffering from *'flu*.

The sun shone *o'er* the bay.

The Hyphen (-) (a) For compound words, as

The Equitable Co-operative Society.

He acted as a go-between in the play.

- (b) At the end of a line to show that the word is incomplete and the balance is transferred to the beginning of the next line, as

There is no doubt that the present emphasis upon concentration is proving of advantage to the scholars.

Quotation Marks (" "). When names of ships, books, plays or musical compositions are not italicized (italics are preferred and will be used throughout this book) they are set off with quotation marks.

Thackeray's "Vanity Fair."

Holman Hunt's "The Light of the World."

Especially when titles of essays, short poems or short stories, the larger work of which they form a part is mentioned.

"The Sentry's Song" from *Iolanthe*.

Somerset Maugham's short story "The Letter" from a collection called *The Casuarina Tree*.

A quotation within a quotation is expressed by single quotes within double quotes, as

"I heard him say quite distinctly 'Keep your hands off me.' Those were the exact words."

Parentheses () indicate a word or phrase that adds very little to the meaning of a sentence, but affords opportunities for asides, such as

Ever since he came here (to my sorrow) I have been under a severe burden.

Brackets []. Where the matter is totally unrelated, a word or phrase interposed, denoting expression, such as

Our party will always serve the people [applause] in spite of the opposition [cheers]

Capital Letters. For purposes of reference, the rules governing the use of capital letters are given below. Use capitals for :

- (a) The first letter of every sentence, as .

We shall arrive home next week. Please tell my friends.

- (b) The first letter in each distinct line of poetry, as :

He that is down needs fear no fall,

He that is low, no pride ,

He that is humble ever shall

Have God to be his guide.

- (c) The first letter in a quotation, as .

The Colonel exclaimed : " My regiment will never let me down."

- (d) Official titles, as

The Queen of Sheba, Minister for Home Defence, the Mayor of Longport, His Honour, His Royal Highness

- (e) The monosyllable *I* as .

Edith and I are going to Blackpool at Easter

- (f) The days of the week, the names of the months, etc as :

Friday, July, Empire Day, Christmas

- (g) The various nouns and pronouns used to indicate God, as :

Jehovah, Almighty, the Supreme Being.

Give thanks to Him who has created you

- (h) Titles of plays, songs, poems, newspapers, etc. as .

We are going to see a play called *Macbeth* to-morrow.

He reads the *Daily Herald*

She recited *The Lay of the Last Minstrel*

Madame Browning will sing " The Lost Chord."

- (i) Abbreviations used for civil, academical or professional qualifications,

as M A. M B E M D.

SELF-TESTING QUESTIONS AND EXERCISES

- 1 Do you understand the difference between a full stop and a comma ?

Write a few sentences to show that you do

- 2 Write a sentence showing the use of the semicolon

- 3 Give, from memory, as many rules as you can regarding the use of capital letters Afterwards compare with the rules given in the lesson.

- 4 Give examples of the use of the apostrophe

- 5 Write out the following correctly, inserting the appropriate capitals and punctuation

yes i said when my father asked me whether i would go to the village for him i had to go of course when my father asks me to do something it is a command if you can get there and back under an hour harry ill give you a shilling needless to say i jumped at the offer and was back again in fifty minutes very good my boy my father commented when i returned.

- 6 Write out the following supplying necessary punctuation .

(a) For his birthday he received a watch a pen-knife two packets of chocolate five books and a walking stick. (b) It was not long before the master called out stop and listen to me. (c) This insect said the professor is a caterpillar. (d) What is your name asked the policeman. (e) Lets go for a swim George cried out. (f) Do you know the proverb a rolling stone gathers no moss I asked him he said that he had never heard of it

7. Correct the punctuation in the following :—

(a) He asked whether the news had reached the parson ? I told him it had'nt (b) It was raining—snowing—hailing, and blowing when we arrived

8 Correct the punctuation in the following passage :—

Mr. Browns' family arrived at the station at four oclock, they came by bus'; The train had'nt arrived of course, so theyd to wait. Young Tommy was very excited Wheres' the train he demanded—shel'll never be here, soon however the trains smoke could be seen and the drivers' mate was visible on the footplate

The answers to the questions are on pages 68 and 69.

LESSON THREE

DIRECT AND INDIRECT SPEECH

AN account of what a person says may be recorded in two ways, either by direct speech or by indirect speech
Direct Speech is when the exact words uttered by the speaker are given, as

The mayor said : " You are gathered here to-night to listen to the committee's report on housing "

Indirect Speech is that which is re-told and the exact words are not given, as :

The mayor informed the audience that they were present to listen to the committee's report on housing

In indirect speech the exact words of the speaker are not used, their meaning being conveyed in general terms.

Direct : He said : " I am aware of all the circumstances "

Indirect : He said that he was aware of all the circumstances

Direct : He shouted to the men " You promised to help me."

Indirect : He shouted to the men that they had promised to help him

Direct Speech :

Frank Where is the manager ?

Tom He has not arrived yet

Frank. I hope that he does not turn up to-day, then I can leave a bit earlier.

Tom. Why, have you something special to do ?

Frank Yes. I have a young lady to meet

Indirect Speech :

Frank asked where the manager was and Tom informed him that he had not yet arrived. Frank expressed the hope that the manager would

not come that day and in answer to Tom's inquiry whether he had something special to do, confessed that he had a young lady to meet.

SELF-TESTING QUESTIONS AND EXERCISES

1. Translate the following into Indirect Speech :

Chairman. May we take the minutes as read ?

Smith. I have not had the chance of studying the minutes as I did not receive a copy. I therefore suggest that the minutes be read.

Chairman. Very well. I ask the secretary to read the minutes of our last meeting.

2. Write the following in Direct Speech :

The manager, in addressing the workpeople, praised them for the good work they had put in during the past twelve months, without which, he asserted, the progress which he was now able to report could not have been made. He pointed out that the production had been increased by 25 per cent and that the firm's reputation for reliable goods was growing every year.

3. Write the following in Indirect Speech :

Councillor Baker, addressing his constituents in Greengate Street Council School on Tuesday evening, said : " I am delighted to find so many of you here this evening to hear me give an account of my stewardship during the year which has just ended. I hope that you are satisfied with the work I have done on your behalf in the council chamber. It has been my one aim to protect your interests and from that lofty resolve I have not departed."

4. Turn the following into Indirect Speech :

(a) The umpire said : " I have given you out." (b) " We must wait here," announced the sergeant to the men, " until we are relieved."

(c) Entering the headmaster's room, Jones Minor said : " Please, sir, may we have a holiday to-day ? " (d) " How much longer shall I have to wait ? " I demanded. " I shall have your coat ready by Saturday," promised the tailor.

5. Turn into Direct Speech :

(a) The pilot declared that he had had a rough time during the storm. (b) The chairman said that he would not take any further amendments. (c) In answer to her son's request as to why the stars did not fall down, the mother suggested that he should ask his father. (d) The chairman, answering a shareholder, said that profits were likely to be less in the immediate future owing to the long strike that had taken place.

The answers to the questions are on page 69.

LESSON FOUR

COMMON ERRORS

BEFORE proceeding to the general aspects of composition and letter writing, improve your knowledge of the language by carefully studying the following rules. This will enable you to avoid many of the errors which are commonly made in both written and spoken English.

Unrelated Participles.

Being anxious to arrive in time, the train, of course, was delayed.

It was not the train but the traveller who was anxious. The sentence should be:

I was anxious to arrive in time, but the train. . . .

Having realized the poverty of the rhymes, the poems were re-written.

It was not the poems that realized the poverty of the rhymes. The sentence should be :

Having realized the poverty of the rhymes, he re-wrote the poems.

Only.

This adverb is often placed in the wrong position. Place the word as near as possible to the one it qualifies.

He *was only* able to do the work because of his previous training.

Correct : He was able to do the work *only* because of his previous training.

Russia is *only* willing to co-operate with Poland if that country. . . .

Correct : Russia is willing to co-operate with Poland *only* if that country. . . .

We can *only* deliver the goods in September if your order is received by return of post.

Correct : We can deliver the goods in September *only* if your order is received by return of post.

Difficulties With Number.

Two singular nouns joined by *and* render the plural form of the verb necessary :

A man and a child *were* in the field.

If, however, the singular nouns are joined by *as well* or *with*, etc. then the singular form must be used, as :

A man, with a child, *was* in the field.

A man, *as well* as a child, *was* in the field.

A man, accompanied by a child, *was* in the field.

A collective noun takes the singular form of the verb :

The committee *meets* (not *meet*) at ten o'clock.

The herd of cattle *was* panic stricken.

The fleet *is* in the harbour.

If, however, a collective noun is used in a sentence where each unit is considered as a separate item, the plural form of the verb may be used :

The committee *lunch* at the Red Lion Hotel.

I or Me.

Most students find difficulty in using these pronouns. Here are simple rules :

(a) She is as tall as I.

If the sentence can be finished by the addition of *am* then the pronoun to be used is I not ME. She is as tall as I *am*.

It was given to *me* (correct).

(b) Consider the following :

My mother and *I* are going to Blackpool in July.

My uncle is taking mother and *me* to Blackpool.

In the first sentence " My mother and I " could be translated by " we ", We are going to Blackpool in July. Where this is the case the pronoun should be I.

The second sentence " Mother and me " could be translated by *us*, as :

My uncle is taking us to Blackpool. Where it is thus possible to substitute *us* the pronoun should always be *me*.

Me is always used after *between*, as

Between you and me.

If and *Whether*.

If implies a condition, as

If it rains I shall buy an umbrella.

I shall send you a telegram if I need money.

It is understood that if it does not rain no umbrella will be bought. If I do not need money I shall not send a telegram.

Whether is used when there is an alternative. The words *or not* are invariably used or implied, as

I shall send you a telegram whether I need money or not.

I wondered whether you would be there (*or not* implied).

To, Too, Two.

Two is a number and used only in this sense, as

I have *two* feet.

Too means :

(a) also or likewise, as

There will be a concert, *too*.

(b) in an excessive degree, as

We have *too* much milk.

The room is *too* hot.

To is used in all other cases, as

He has gone *to* London.

I am going *to* speak *to* Alfred.

To swim is a healthy exercise.

Who, Whom.

Who is subjective : *whom* is objective.

Who is on the Lord's side ; who will serve the King ?

I shall introduce you to Mr. Brown, with whom I have had business connexions.

To whom have you lent my book ?

May, Can.

Use *may* when asking for permission, as

May I have this afternoon off (Do you give me permission ?)

Use *can* to denote ability, as

I wonder whether I can gain the prize !

May he speak French ? (Do you give him permission to speak French ?)

Can he speak French ? (Is he able to speak French ?)

Between and Among.

The preposition *between* is used when *two* nouns are involved : *among* when more than two are involved, as

Divide the oranges between the two boys.

Divide the oranges among the six boys.

Different, Similar.

Note the prepositions used after these words :

That hat is different *from* mine.

That hat is similar *to* mine.

Comparison.

When two nouns are compared the comparative must be used, not the superlative :

This desk is the larger of the two.

This desk is the largest in the room (more than two).

None.

None means no one and takes the singular form of the verb, as

None of the churches in our town is well attended.

Shall, Should.

Note :

We shall be glad if you *will* kindly (not *would*).

We should be glad if you *would* kindly (not *will*).

Kind, Sort.

These words are singular, hence

I do not like *this* kind of book.

This sort of chocolates is not obtainable.

Which or That.

That defines or limits the meaning : as

The coats *that* have fur collars are soon sold. (Here it is understood that some coats have fur collars and some are without fur collars.)

The coats, *which* have fur collars, are soon sold. (Here it is understood that all the coats have fur collars.)

All Right.

Always use two words, *Alright* is wrong.

LESSON FIVE

PRÉCIS WRITING

A PRÉCIS is a summary. When a student is asked to write a précis of matter he is expected to select the important points and omit anything that is unimportant and unnecessary.

It is not expected that he will correct the passage or add to it. His task is to re-write the letter or piece of composition so that all the essentials are retained within the confines of considerably fewer words.

He may be instructed to reduce the length to one-half or one-third of the original. The student is also often asked to supply a heading or title.

It will be realized that much time can be saved to a busy man if he is presented with a précis of a complicated collection of documents instead of being compelled to read through them all.

A telegram is really a précis of what would be written in a letter, as the following example will show :

Letter.

Dear Sirs,

Your letter of March 25th has been received, asking for the date when we can deliver your goods. We have gone carefully into the position of your order but regret that owing to a breakdown of machinery in our works, delivery cannot, unfortunately, be given by the date originally promised.

Every effort, however, is being made to hurry forward with the goods

and it can be stated, quite definitely, that delivery will be made during the first week of May.

We apologize for the delay and trust that you have not been seriously inconvenienced.

Yours faithfully,

If, instead of the above letter, it should be decided to telegraph, the telegram would read :

Delivery delayed through machinery breakdown stop goods will be delivered first week May.

In writing a précis it is advisable to view the summary from the standpoint of the individual for whom the information is being compiled. The question the writer must ask, is : " Does this condensed account contain all the essential information that the reader will need ? "

The art of précis writing demands two qualities :

The ability to think clearly ; an extensive vocabulary.

As in all branches of study, much practice is required. Such practice will develop powers of expression, concentration and discrimination. The student should read carefully through the original and make sure that he understands it. Intelligence must be exercised in determining between essentials and non-essentials.

The précis should be written in indirect speech and it is advisable to employ short sentences.

Condensation can often be achieved by the employment of a single word for a phrase. Note the following :

Lectures will be held in the Town Hall for which a price of admission will not be charged. These lectures are being organized for the benefit of all classes of people.

This could be summarized :

Free public lectures will be held in the Town Hall.
Compare the following letter with the précis :

BROWN & GREY
Auctioneers and Valuers

Blackburn.
6th September, 194..

Messrs. Smith, Smith & White, Ltd.

BLACKBURN.

Dear Sirs,

In accordance with your instructions we have visited the mill named in your letter and have made a thorough inspection of the whole concern. Generally speaking, we are of opinion that the sum you mention as purchase price is far too high and unless a considerable reduction of this figure can be obtained we should recommend you not to continue further negotiations with the owners.

In the first place we found the machinery in very bad condition. Not only are the machines of very old type but they have not been properly looked after. They are dirty, broken and even the essential job of oiling has, in some cases, been forgotten. Quite a large percentage of the looms,

for example, should, in our view, be thrown out and replaced by up-to-date machines. The gearing, too, is antiquated.

The building itself stands in urgent need of repair. The roofing, in some places, allows the rain to percolate and this drops on the machines.

There are other matters we should like to mention at an interview if you will be so kind as to make an appointment.

In the meantime we suggest that other mills which are for sale in the neighbourhood should be inspected.

Yours faithfully,

Précis of the above letter :

Brown & Grey report on September 6 that, having inspected the mill named by us, they consider purchase price too high and recommend cessation of negotiations unless considerable reduction is obtained. The machinery is old, in bad condition, and has not been properly looked after. Machines are dirty, broken and unoiled. Many of the looms need replacing. The gearing is antiquated.

The building needs immediate repair : in places rain comes through the roof and drops on to machines.

Brown & Grey ask for interview when other matters could be mentioned. They recommend other local mills which are for sale be inspected.

SELF-TESTING QUESTIONS AND EXERCISES

1. Give one word to express the words in italics :

(a) He is a person *with whom it is impossible to get into contact*. (b) His conduct was *worthy of praise*. (c) The weather was *not at all suitable for their purpose*. (d) The mayor addressed the meeting *without having prepared his speech*. (e) He was *put out of countenance* by the headmaster's report. (f) His *wish to succeed* made him alert. (g) The water dropped from the tap *without ever stopping*. (h) His question was *entirely unrelated to the subject which was being discussed*. (i) She is a *person who always looks on the black side of things*. (j) She is a *person who earns her living by attending to people's feet*. (k) He is *an individual who does not believe in any religion*. (l) *To be late continually* is a bad habit. (m) That chemist supplies drugs which are quite *free from foreign matter*. (n) This jug is a *duplicate copy* of the one I broke last week. (o) She is a *lady who makes hats*. (p) The resolution was passed by *everybody present voting for it*.

2. Write a précis of the following passage. Your version should be about one-third the length of the original. Supply a suitable title :

The natural riches of Estonia are confined to the products of her husbandry and forestry, as well as a few minerals, of which, however, only the oil shale deposits, scattered about in different parts of the country, have so far acquired some commercial importance.

The severance of Estonia from the territories of Russia in 1918 caused far-reaching changes in local market conditions. This entailed, in turn, a complete rearrangement in respect of the methods and aims of the country's productive activity. A number of other vital factors, determining the general economic structure, likewise underwent considerable alterations. The comprehensive land reform carried out during this

period produced a radical turn in the distribution and ownership of landed property and, to a large extent, also in the social grouping of the community. The quick progress witnessed in the field of general and professional instruction operated to enhance the requirements of the population, while at the same time intensifying the economic activity.

This rapid development, which was made possible largely owing to the special circumstances created by the war and the ensuing revolution, resulted in wide-embracing structural changes in the economic fabric of the country. This process of accommodation to the changed aspect of world conditions is still continuing under the pressure of the existing restrictions upon international change.

3. Make a précis of the following letter :

HUDSON & JACKSON

25 Fleet Street,
London, E.C.
6th September, 194..

Messrs. Barrow & Andrews, Ltd.

Dear Sirs,

Regarding your letter of August 24th asking for prices and particulars of the Summit brand of paints, it is our pleasure to enclose a booklet and colour card to which we direct your attention.

You will notice that the paint is manufactured in 14 colours and made up in 14 lb. tins. The prices stated in the booklet are retail prices and, to you, as merchants, a discount of 25 per cent would be allowed, plus a further 5 per cent for payment in seven days.

Many London architects, having experimented with this brand of paint, now include it in their specifications.

With reference to your remarks regarding exportation to South America, we should be glad to fill your export orders. The discount would be the same as stated above, although we should be prepared to pack the tins in strong cases and deliver f.o.b. any British port, without extra charge.

Delivery could be given from stock.

Yours faithfully,

The answers to the questions are on page 69.

LESSON SIX

STYLE

EVERY writer has his own style. While it is foolish to attempt to imitate another's style, nevertheless, by much reading and considerable practice in writing a student can develop a style of his own. In writing an essay on *A Peasant's Home*, simple words and quiet sentences would instinctively be employed ; whereas in writing on a dynamic subject such as *A Battle in the Air* an attempt should be made to infuse an atmosphere of adventure and heroism into the composition. A good writer conveys in his work the spirit which animates him as he writes, thus infusing the same spirit in the reader.

When a composition is presented to a reader it would not be complimentary to offer him a carelessly written piece of work, badly punctuated or containing spelling errors. If he does you the favour of reading your work you must, on your part, present only your best, written in such a way that he will be interested. In other words, your composition must bear the hallmark of quality. This quality is known as style.

You have read articles in newspapers and periodicals obviously written by experts in the subject about which they wrote, and yet, you have found such articles lacking in interest and difficult to read. The writers certainly possessed a wide background of knowledge but their work lacked style. It should be the aim of every essayist not only to convey the information he has to impart but to do so in such a way that the reader will have pleasure and delight in the reading.

Simple Style. This manner of writing avoids all attempt to impress the reader with the writer's cleverness. The majority of the great literary masterpieces are written in the simple style. The Bible stories, particularly the stories of Jesus as recorded in the four Gospels, are splendid examples of this simple style. Read this :

Bestow your undivided attention upon the lilies and consider their mode of growth ; their unsurpassable beauty and their indefinable charm. There is no necessity for them to engage in the laborious performance of physical tasks nor is there any occasion for them to concentrate upon the art of spinning, and yet, I draw your attention to the fact that Solomon, the illustrious king whose wisdom achieved for him a renowned place in archives of history, even when he had reached the summit of his glory, was never apparelled with the sumptuousness of these flowers.

This passage is written in the style known as lofty, a style which students will avoid as far as possible. Compare it with the beautiful wording—in the simple style—of the original (St. Luke xii, 27) : Consider the lilies, how they grow ; they toil not, they spin not : and yet I say unto you, that Solomon in all his glory was not arrayed like one of these.

There are two warnings that must be given :

1. However much you may use slang in your unguarded conversation, do not be guilty of permitting it to creep into your written compositions. Such expressions as " not half," " O.K." are as appropriate in a serious composition as a comic song would be at a funeral.

2. Avoid journalese. This is the language adopted by sensational newspapers which would consider it tame if quite ordinary events were not served up in flamboyant covers. Favourite adjectives of the journalese writer are, mysterious, colossal, amazing, stupendous, unaccountable.

EXERCISES FOR PRACTICE

1. Re-write the following sentences in the simple style :

(a) The antagonism manifest between the two feline creatures was displayed, in particular, one evening when they engaged in a protracted combat, upon the summit of the brick wall which separates our domicile from the near passage. (b) The enclosures appended to your esteemed communication of 27th ultimo have received the attention of the supervisor of our establishment. (c) The complicated bustle among the

commercial gentlemen who habitually frequent the floor of the Cotton Exchange was augmented to-day when the astounding information was circulated that the establishment would be closed for the transaction of commercial activities for a fortnight. (d) Our current hypothesis about Mahomet, that he was a *scheming Impostor*, a *Falsehood incarnate*, that his religion is a mere mass of quackery and fatuity, begins really to be now untenable to any one. The lies, which well-meaning zeal has heaped round this man, are disgraceful to ourselves only. (Carlyle.)

2. Here is a pompous letter to be translated into plain, unadorned English :
Dear Sir,

Concerning your visit to our establishment in the forenoon of Wednesday last, it is my pleasure to acquaint you with the fact that after consultation with my co-directors, and thoroughly investigating your credentials, it has been decided to offer you an appointment on our staff at an emolument of £156 per annum, paid weekly, which figure would, in due course, be augmented in conformity with the diligence you displayed in the execution of the duties allocated to you.

Yours faithfully,

LESSON SEVEN

ESSAY WRITING

THE building up of a composition calls for thought and planning. Let us consider this important matter.

First of all, the question may be asked : What shall I write about ? In an examination where an essay is required, a variety of subjects will be given from which the student may select the one which he feels he can handle most effectively. Four things are of paramount importance to the essayist :

1. A vocabulary wide enough to enable him to express his thoughts *exactly*.
2. An ability to make his work interesting.
3. A grasp of grammatical rules.
4. A knowledge of the subject upon which he is to write.

It is to the last item that we must now give our attention.

If there is some burning topic upon which you hold strong views, you will feel the urge to express your opinions and no difficulty will be experienced. The question, however, arises as to how one accumulates a background of knowledge that will enable one to write on many subjects. The student must constantly be increasing his store of knowledge. He has his own experience, observation and reflection. He will keep himself abreast of the times by reading newspapers, magazines, and listening to debates, discussions and talks on the radio. In addition, from the preacher and the lecturer he will hear new viewpoints on all sorts of subjects, while conversation with his friends, and particularly with those who are better informed than himself, will help to swell the fund of knowledge upon which he can draw.

The main basis of his knowledge will, however, come from reading books. The student is fortunate, to-day, in the availability of books either from the libraries, or by purchase for a few shillings. There are few subjects about which it is difficult to obtain expert information.

Above all, constant practice in writing is indispensable to proficiency.

In writing an essay, the student need not *exhaust* the subject. He is not required to say *everything* there is to be said on the topic. It is a common mistake to imagine that everything known about the subject matter of the essay should be included. It is his task to write pleasantly and interestingly and it is enough to deal with the subject only from the angles that appeal to him. An essay is not a thesis. While it is unprofitable to sail a ship under ballast it is highly dangerous to sail it over-laden.

What is to be set forth should be systematically arranged so that the composition reads easily from beginning to end.

In telling a story we are careful to reserve the point until the last sentence, otherwise we should create an anti-climax. In writing an essay, too, we must be careful not to put into the first part of it the full strength of what we have to impart, otherwise we shall finish tamely. The aim should be to make our work as interesting as we can in the opening sentence so that the reader will be anxious to continue to learn what we have to disclose.

As a rule an essay may be divided into three principal parts :

The introduction ; the body ; the conclusion.

It is from the introduction that the reader will decide whether he is going to be interested or bored.

It has been found that a satisfactory method to adopt is to write down, first of all, on scrap paper, every thought that the subject brings to the mind. A student was asked to write an essay on " A Daily Newspaper " and he proceeded to write down all the thoughts that occurred to him, as follows :

1. Newspapers cater for all tastes.
2. News comes from all quarters of the globe.
3. Newspapers are very cheap.
4. Contributors are experts in their own branch of knowledge.
5. The amount of paper supplied for a penny in a newspaper, is more than you could buy, even if it were unprinted, for the price of a newspaper.
6. News is quite up-to-date. Events that happened last night in distant corners of the earth are reported in this morning's edition.
7. How can a newspaper be supplied so cheaply ? Answer—advertisements.
8. No one can afford to be without a daily paper if he wishes to keep abreast of current events.
9. The organization behind a newspaper must be tremendous.
10. Newspapers are illustrated.
11. Function of Reuters and other agencies.
12. War news also supplied by newspaper's own correspondents.
13. Newspapers must be produced at terrific speed.
14. Competitions provided, crossword, chess, etc.
15. Pigeons are used in newspaper offices, also tape machines.
16. A newspaper employs many people.
17. Much work at night.
18. Modern machinery employed.
19. Reviews of films, books, etc.
20. The paper used is made from wood pulp.
21. Some proprietors have their own forests abroad.
22. Newspapers mould public opinion.

With these points before him, the student had to decide which of them

should be used, (a) in the introduction ; (b) in the body of the essay ; and (c) in the conclusion. This is the essay he wrote :

A Daily Newspaper

How is it possible for a newspaper to be sold for such a low price as a penny ? If we pause for a minute or two and consider the large amount of paper, printed with news from the four quarters of the earth and containing articles upon many interesting subjects written by highly paid experts, we cannot but be amazed. Indeed the mere cost of such a quantity of blank paper would be more than a penny.

Let us consider what a modern newspaper serves to us. There is something to interest us all : the housewife, the business man, the sportsman, the film fan, the literary person, and for those of us who fancy such things, the thrilling and exciting happenings of the police courts. Nor are the children forgotten. In addition, political news is there, so none of us needs to be ignorant of the trend of events or the obligations that devolve upon us.

The paper which rustled in our hands this morning as we avidly scanned the news, was, not so long ago, part of a tree growing in some distant land. That tree was made into pulp, packed and sent across the ocean to our country where intricate machinery turned it into newsprint. Then it was sent to the newspaper works, where men were ready to print on to it through the hours of night and dispatch it by train so that it was there, on our breakfast table, awaiting our perusal.

And how did the news which it contains arrive at the newspaper office ? It came by tape machine, by telegram, by telephone, and even by pigeon post. While we slept, vast numbers of men and women, highly skilled in their own particular speciality, worked for our benefit.

There are in existence agencies, like Reuters, whose business is to supply news to their subscribers. In addition, most newspapers have their own representatives in the chief capitals of the world. From these sources news never ceases to filter through during the day and night and sub-editors decide which part shall be given space in the paper. Photographers, too, are busy with their cameras taking pictures of ceremonies and events likely to be of interest to the readers. It is interesting to note that photographs can be sent by telegraph and wireless.

It is the advertiser who enables a newspaper to be sold at so small a cost. High rates are charged for advertisements in newspapers and the larger the circulation the higher the rates that may be demanded. Hence, every endeavour is made to increase circulation as national advertisers are keen upon displaying their notices where they will be most widely observed.

Life would, indeed, seem empty if we were deprived of our favourite daily newspaper to present the world in essence to our eyes each morning.

Points for Essay Writers

1. Avoid old-fashioned words such as methinks, erstwhile, etc.
2. Avoid slang, such as O.K., etc.
3. Avoid the use of foreign words and phrases : such are regarded as affectation.
4. Be exact in expression.

"I shall do my best to come as soon as possible" is wrong. Either say, "I shall do my best to come soon," or, "I shall come as soon as possible."

5. The meaning should be clear. Avoid long, complicated sentences. Simplicity of language makes for clarity.
6. Sentences should, if read aloud, be pleasing. Aim at rhythm.
7. Avoid using more words than necessary. This fault is known as verbosity. Words are like leaves; and, where they most abound, Much fruit of sense beneath is rarely found. (Pope.)
8. Use concrete expressions. Do not say: "There was a ship lying at anchor in the bay," if you can specify the type of ship, as yacht, trawler, destroyer, etc.
9. Avoid stereotyped phrases and idioms. "At the end of the concert" is better than "At the termination of the performance." "The minister" is better than "The reverend gentleman."
10. Avoid tautology. This fault is the repetition of the same thing in different words. A large giant; I enclose an invoice *herewith*. (The words in italics are tautological.)
11. Avoid abbreviations. Write "do not" instead of "don't"; write "December" instead of "Decr.", etc.
12. Short sentences are effective. It is a good policy to sandwich a longer sentence between two short ones.
13. See that the introduction is arresting, and the conclusion strong.
14. Read aloud your composition to make sure your sentences are not clumsy.

EXERCISES FOR PRACTICE

1. Study the essay on *A Daily Newspaper* and make lists: (a) of points used in the introduction; (b) points used in the body of the essay; (c) points used in the conclusion; (d) points not used.
2. Write essays on the following subjects considering the points given and adding to them from your own knowledge:
 - (a) *A visit to the seaside*.

Mother very busy beforehand. Packing. What to take. Early morning start. The children's excitement. The pleasures of anticipation. Saying good-bye to the house for a fortnight. The holiday soon passes.

- (b) *Retail trading*.

Difference between retail and wholesale. Importance of orderliness in a retail shop. Where goods are obtained. Cheerfulness an asset. A cash register. Value of attractive shop window. Giving credit.

- (c) *Life in a large town*.

Comparison with country life. Many entertainments. Educational facilities. Employment opportunities. Shopping. Noisy. Smoky. Absence of green meadows. How towns came into existence. Better wages paid than in country. Better housing, lighting and sanitation. Community life. Transport facilities.

(d) *New Year's Day.*

A fresh page in life's book. Resolutions. A holiday. Middle of winter. Watch-night service. New-Year customs. Made more of in Scotland.

(e) *The cinema.*

Comparison of American and British films. The influence upon young people. Cheering effect upon wearied people. Comfortable seating. The big syndicates. Cost of producing films. Sunday opening.

(f) *A Mayor's procession.*

Yearly event. Crowds. Pageantry. Its purpose. Hawkers. Tired children. Ambulance in attendance.

Subjects for essays, without notes.

- | | |
|---------------------------------------|------------------------------------|
| 1. Sarcasm. | 12. The value of experience. |
| 2. Church-going. | 13. The family doctor. |
| 3. The advantage of a good education. | 14. Our debating society. |
| 4. Table manners. | 15. If I could paint a picture! |
| 5. June and December—a contrast. | 16. Animals in cages. |
| 6. My most exciting adventure. | 17. On keeping control of oneself. |
| 7. The post office. | 18. The export trade. |
| 8. My favourite book. | 19. The value of a telephone. |
| 9. Poetry. | 20. If I were left £100. |
| 10. The value of examinations. | 21. The story of a walking stick. |
| 11. Clerical employment. | 22. Fortune telling. |
| | 23. A vacuum cleaner. |

LESSON EIGHT

LETTER WRITING

LETTER WRITING is an art which can be acquired by study and practice. A letter is meant to convey information. In business correspondence a letter should not be written unless there is something about which to write. This is not always the case with personal correspondence where letters are frequently exchanged merely to maintain contact. In personal correspondence the idea is sometimes fostered that the depth of friendship may be judged by the length of a letter. Many people, therefore, go to considerable trouble to find matter enough to fill the regulation four pages and both they and the recipients would feel that something was amiss if any portion of the sheet were left blank.

This sentimental viewpoint does not obtain in business correspondence where letters should be as short and concise as possible without sacrificing clarity.

In business letters the name and address of the person or firm to whom the letter is addressed must be stated. It is usual to place this at the top, left-hand, of the letter, although in certain cases it may be given at the foot of the letter. Examples are shown in the Typewriting section of this book.

If the letter is addressed to a single person, Mr. or Esq. may be used, as John Brown, Esq., or Mr. John Brown.

Civil or military honours, degrees and other qualifications appear after Esq., as

George Baker, Esq., M.C.

F. C. Wilde, Esq., B.A.

It should be noted that civil and military honours are placed before academical qualifications, as

David Griffiths, Esq., M.B.E., M.Sc.

For a firm the title is Messrs., as

Messrs. Jones and Smith.

Messrs. Robinson & Rodgers, Ltd.

Where the name of the firm is impersonal, as The Paragon Stove Co., Ltd. the modern practice is to omit the courtesy title, as

The Oldport Co-operative Society, Ltd.

The Progressive Tailoring Company.

Messrs. is not used, also, before the name of a firm which includes a title, as Sir Robert Smithies & Sons, Ltd.

There are a few rules which the commercial correspondent must observe.

Letters must be clear. No portion of a business letter must be open to misconstruction. "Our representative will call upon you on Tuesday," is not as clear and definite as :

"Our representative will call upon you on Tuesday, July 24 at 3.30 p.m."

Students are strongly recommended to read their letters before dispatching, *from the viewpoint of those who will receive them.* Letters must be concrete. Abstract terms should be avoided.

22nd April, 194..

Dear Sirs,

We have received your esteemed order for which please accept our thanks. We hope to deliver as soon as possible.

Yours faithfully,

The information which that letter contains is negligible. It would be a waste of time and postage to send it. The letter could be printed on a post card and sent automatically every time an order had to be acknowledged.

Compare it with the following :

22nd April, 194..

Dear Sirs,

Your order No. 1765/F.T.F. for 12 doz. 12 in. galvanized buckets has been put in hand.

The first half of this order will be dispatched on May 1, and the remainder one month afterwards.

Yours faithfully,

The second letter gives information. Compared with the first lifeless effort it exudes efficiency.

Abstract terms are used in business letters from two causes :

The writer has the mistaken idea that stereotyped jargon sounds business-like.

The writer is too lazy (a) to search for the exact words he needs, and

(b) to institute inquiries into the circumstances so that he may give detailed information.

A man reading such a phrase as :

"Hoping the same will meet with your requirements," is compelled to translate the abstract terms "same" and "requirements" into something concrete before any information is conveyed to his mind. It would have been effective to write :

"We trust that the samples we send will match the dresses you are making. If not, please state wherein they fail and we shall be happy to send you a further selection."

Avoid stereotyped expressions such as : Best attention ; kind favours ; hoping the same. . . .

If personality is to be conveyed in letters then there must be an avoidance of the worn-out phrases that old-fashioned people consider business-like.

Avoid foreign words and phrases, such as *ultimo* (last month), *instant* (this month), *proximo* (next month).

It is not clever to use Latin words instead of specifying in English the name of the month.

The writer of a business letter must put himself in the background. Businesses are established to make profit and if you wish to create a satisfactory contact with the firm to whom you are writing, the letter must be written considering the interests and desires of the addressee.

No firm will send you an order because you say in the quotation : "Hoping to be favoured with your orders."

If an order was not wanted a quotation would not be sent. An order will be placed if prices, quality, packing, delivery, etc., are satisfactory. That you "hope to be favoured" will not influence the buyer one iota. It is a phrase that should be omitted.

The golden rule is to write your letter thinking only of the receiver's interest. Your own interests must be kept in the background.

When the legendary spider invited the fly into his parlour he did not say, "Come into my parlour because I am hungry and need a fly for my lunch. Nature has so ordered matters that a fly is a legitimate meal for a spider—therefore please come along!" If the spider had talked in that fashion the fly would have taken to its wings immediately.

Instead the spider kept himself in the background. He dwelt only on the interests of the fly.

"You are tired, Miss Fly, come and rest in my cool parlour. There is a couch for your comfort and a mirror where you can powder your nose. It will be restful for you ; comfortable for you ; pleasant for you."

This illustration is perhaps a little grotesque but it covers the general idea of successful letter writing.

In a few words, omit the first person (I and we) as often as you can in business letters and substitute—you. That will create a new angle of approach.

Note the two following examples :

Dear Sirs,

We are in receipt of your inquiry of June 29 and enclose our estimate which

amounts to £320, less 5 per cent discount for payment within thirty days from date of invoice.

Our machines are of excellent make and we receive orders from all over the world for them so that we are satisfied they perform the work we claim for them.

At the moment our order book is full and we could not promise delivery for three months.

We have not yet had the pleasure of doing business with you ; therefore we should be glad if you could let us have the names of two business firms to whom we could apply for usual references.

We hope to be favoured with your esteemed order which will receive our careful attention.

Yours faithfully,

That letter is written from the angle of the seller. Now consider the letter had it been written from the angle of the buyer :

Dear Sirs,

In answer to *your* inquiry of June 29 it is a pleasure to submit a quotation for the machines in which *you* are interested. *You* will notice that from the amount of the estimate a discount of 5 per cent can be allowed to *you* for payment within thirty days from the date of the invoice.

It is our policy to supply only machines of first class quality and *you* may rest assured that if *you* place an order *you* will be satisfied with the work they turn out. The many orders we receive testify to the fact that customers are satisfied with them.

Although the factory is very busy just now we could promise *you* delivery in three months.

Your order would receive very careful attention, and, in the event of *your* deciding so to favour us, perhaps *you* would be good enough to supply two business references.

If there is anything in our estimate that is not quite clear, or if there is any point upon which *you* require further information, please do not hesitate to ask for more details.

Yours faithfully,

Letters represent the firm. In many cases the point of contact between firms is confined to correspondence. A letter is an ambassador from the firm that writes it. It is expected that a traveller will do credit to the concern he represents. He must be well-dressed, reliable, respectable and of good repute. A letter also carries the reputation of the firm. It should be well thought out, the grammar must be faultless, its statements must be truthful, and it should be accurately typed on good quality paper. A slovenly letter is as injurious to a firm as is a slovenly traveller.

Letters must be courteous. In the aim to be brief be careful not to be brusque. Politeness costs nothing and in a letter it creates a feeling of sympathy in the receiver. Even if a letter has to be written with some degree of reproof, the severity can be toned down by judicious phrasing.

Note the following examples :

Dear Sirs,

The case of crockery reached us this morning, quite a week late. Upon opening the case we found that seven cups and four saucers were damaged, due to careless packing. We are certainly not going to pay for these as the fault is entirely yours. Please send us a credit note by return.

Yours faithfully,

The same letter written with courtesy :

Dear Sirs,

It is with regret that we have to inform you that the case of crockery arrived at our warehouse a week later than we expected it, and that seven cups and four saucers were broken.

It is our impression that the packing of the crockery was not carried out with your usual care and efficiency, and we shall be grateful if you will be so kind as to let us have a credit note for the broken articles.

We are,

Yours faithfully,

Hints on Letter Writing

1. Be as brief as circumstances permit.
2. In making the letter as short as possible do not be vague.
3. Politeness is imperative.
4. Never use a long word if you can use a short one.
5. Avoid, as far as possible, the first person.
6. Read the letter through to ensure :
 - (a) That it will be quite clear to the receiver.
 - (b) That amounts, dates, etc. are correct.
 - (c) That all the information asked for has been given.
7. Do not delay answering a letter because it is difficult, or because answering it completely means inquiry and investigation on your part.
8. Never use an abstract word because a concrete term means mental trouble to you.
9. Write your letter from the viewpoint of the receiver.
10. Do not use foreign words or phrases.
11. Do not aim at impressing your addressee with your cleverness.
12. Do not copy other people's phrases.
13. Never use the word "herewith."
14. Endeavour to infuse your personality into your correspondence.
15. Short sentences are the easy pathway when dealing with a subject that is complicated and involved.
16. Omit all sentences that mean nothing and when left out do not impair the value of the letter.
17. Do not begin a sentence without knowing how you are going to finish it.
18. Endeavour to write your letters so that the reader will be interested right from the start.
19. As far as practicable reply to the points raised in your correspondence in the same order as they are placed before you.

20. Circular letters are either printed or duplicated and the names of the addressees are not usually written on them.

Specimen Letters

APPLICATIONS FOR SITUATIONS

In answering newspaper advertisements of vacant posts the applicant's hope of being called for interview rests upon the letter of application. Too much care, therefore, cannot be devoted to such letters.

Here are a few letters which may be a guide :

14 Cedar Grove,
London, S.E. 19.
5th September, 194..

Box No.....'

Manchester Guardian,
Manchester.

Dear Sirs,

As you are advertising for an experienced clerk capable of writing shorthand at a quick rate you will be interested to know that, two years ago, I was awarded a R.S.A. certificate for shorthand written at 140 words a minute. Since then, by constant practice, my speed has increased to 180 words a minute. I should be happy to call at any time for a test.

As to typewriting, my speed is 60 words a minute on any standard machine.

My age is 24. I have a good knowledge of French and German, having obtained credits in both subjects in the School Certificate examination.

I was educated at Gainsford Grammar School, and, after leaving school, was employed in the office of the Salport Engineering Co., Ltd., for six years, where I received a good general office training. I am at present in the service of the Tyreburn Loom Co., where I act as secretary to the managing director.

If appointed to the post now advertised I assure you that I shall be loyal and diligent.

Yours faithfully,

ADVERTISEMENT : Branch manager wanted for shoe store : must be experienced in all sections of the trade and a capable buyer : state age and full particulars to Box B. 110, *Manchester Observer*.

32 Browning Crescent,
Wigan.
6th September, 194..

Box B. 110.

Manchester Observer,
Manchester.

Dear Sirs,

For eight years I have been entrusted with the management of a shop specializing in ladies' and gentlemen's footwear and have been responsible for engaging and supervising staff, buying, window dressing, keeping the books, and, in fact, entirely controlling the activities of the store.

My experience covers every section of the retail shoe trade and during the

eight years I have had charge, the turnover has doubled.

I am thirty-five years of age and can produce unimpeachable references as to my character, ability and experience.

It has been my custom to attend trade exhibitions and I am a subscriber to the shoe periodicals so that I have kept myself in touch with all developments in the footwear business.

Yours faithfully,

CIRCULAR LETTERS

(a) *Establishment of a new business.*

FRANK ROBERTS
Property Repairer

52 Blackburn Avenue,
Wigan.
6th September, 194..

Dear Sir or Madam,

For fifteen years I have been acting as foreman to various local firms and, during that period, have had considerable experience in repairing all classes of property including private houses, shops, churches and mills.

I have decided to commence business on my own account and shall be glad to have the opportunity of quoting you for any repair work that you may wish to have carried out.

It is my intention to build up a sound business connexion on the basis of reliable work at moderate prices and my personal supervision of all jobs will ensure satisfaction. I shall look forward to including you among my regular customers.

Please do not hesitate to consult me whenever you think my experience might be of use to you. It will be a pleasure to estimate for any work, however small.

Yours faithfully,
Frank Roberts.

(b) *Removal of premises.*

THE UNION MANUFACTURING COMPANY, LTD.

14 Yorkshire Road,
Ashton.

Tel.: Ashton 1765.

6th September, 194..

Dear Sirs,

Owing to the great increase in our business we are removing from the above address, on October 1, to:

16 Oldham Road, Ashton,

where much larger accommodation will enable us to increase our plant and thereby allow earlier delivery to be made.

May we take this opportunity of thanking you for your past support and assuring you that future inquiries and orders will always receive our prompt and careful attention?

Yours faithfully,

(c) *Reporting about damage caused by fire.*

THE CLEGG SPINNING CO., LTD.

Oldham.

6th September, 194..

Dear Sirs,

From the newspapers you will probably have seen that a fire broke out in one of our mills last week, but we are happy to inform you that the damage is not so extensive as was feared at first and that manufacture is still continuing although on a reduced scale.

New machines to replace those damaged have already been ordered and it is anticipated that delay in delivery of orders will not be longer than from three to four weeks.

Fortunately our warehouse, where we hold large stocks, was not damaged and it is possible that we may be able to effect immediate delivery of any particular count that you may be urgently requiring.

Please accept our sincere apologies for any slight delay that may occur in delivering yarns which are in process of manufacture.

Yours faithfully,

INQUIRIES

THE SOLPORT VOLUNTARY HOSPITAL,
Solport.

6th September, 194..

Messrs. Green & Co., Ltd., Solport.

Dear Sirs,

The committee of management at their last meeting decided to extend this hospital by the addition of a wing and I have pleasure in inviting you to tender for this work.

At any time you may see the plans and specifications at my office if you will kindly make an appointment beforehand.

The tenders are to be sent in a sealed envelope and must be received here on or before 1st November 194..

Yours faithfully,

THE MANCHESTER STOCKING COMPANY

Oxford Road, Manchester.

6th September, 194..

Messrs. Banks Brothers, Leicester.

Dear Sirs,

Kindly quote for 500 dozen of ladies' silk stockings, assorted colours, your quality B.1788, as supplied to us in the spring of this year.

It is hoped that for this large quantity you will be able to quote us a special price.

When quoting, please be good enough to state how soon you can effect delivery.

Yours faithfully,

QUOTATIONS

HOLT, THOMSON & BROWN

Cardiff Road, London, S.E.11.

6th September, 194..

Messrs. Cooper, Cooper & Grey Ltd., Liverpool.

Dear Sirs,

A consignment of high grade rice is due to arrive in this country during the next few days and enclosed you will find a sample taken from bulk.

Most of this parcel has been sold already but there is a portion available, viz., 50 tons, which we can offer you at £13 10s. per ton, delivered f.o.r. Liverpool.

If you are interested in this rice we shall be glad if you will telegraph us upon receipt of this letter as the offer is made subject to being unsold.

You will see the quality is unusually good and you are recommended to give your special consideration to this offer.

Yours faithfully,

YORKSHIRE SUITINGS LTD.

Leeds.

6th September, 194..

Messrs. Moore & Brown,

Union Street,

Liverpool.

Dear Sirs,

The sample of tropical suiting enclosed in your letter of September 4 has been carefully examined and we now enclose a sample of the nearest we can offer against it, our quality G.H.110.

The price for this cloth, 54 in. wide, is 14s. 6d. per yard, less 2½ per cent monthly account. Delivery up to 30 pieces of 60 yards each could be given from stock.

It is hoped that our quality G.H.110 will be satisfactory; if not, we could make a cloth identical with yours but delivery could not be promised under six months. The price would be 19s. 8d. per yard, less 2½ per cent monthly account.

The undersigned will be in Liverpool early next week when he will have the pleasure of calling upon you. Would Tuesday at 11 a.m. be a suitable time?

Yours faithfully,

STOCKPORT IRON CO., LTD.

Grange Works, Stockport.

6th September, 194..

Messrs. Blundell & Co., Ltd.,

Bristol, 3.

Dear Sirs,

We understand that you are buyers of pig iron and therefore you may be interested to know that we hold large stocks. Below we quote you to-day's

best prices for delivery f.o.r. Stockport :

Cleveland	86s. per ton	Northampton No. 3 .	85s. per ton
Lincolnshire No. 3	86s. per ton	Scotch Summerlee ..	96s. per ton

Prompt delivery could be given subject to stocks being unsold.

Yours faithfully,

ORDERS

Orders are usually made out on printed forms. Great care should be exercised to ensure that the quantities ordered are correct and that there is no mistake in the prices. An order should be promptly acknowledged and the order number always quoted.

LOADER & ROGERS
Manufacturers

Ocean Mill, Colne, Lancs.
6th September, 194..

Messrs. Collier & Thomas Ltd.
Swansea.

Dear Sirs,

Our order No. 707 is enclosed and it would be considered a favour if you could arrange to dispatch the goods to us within seven days.

Yours faithfully,

ORDER FORM

Date : 6th September, 194..

From

Loader & Rogers,
Ocean Mill, Colne, Lancs.

To

Messrs. Collier & Thomas Ltd.
Swansea.

Order No. 707.

Kindly supply the undermentioned goods in accordance with the conditions stated. This order should be acknowledged by return of post.

6 Gross Tins, 2 lb. size, Disinfectant, Atlas Brand . @ 10s. per dozen

3 Gross Tins, 2 pint size, No. 1 Weedkiller @ 16s. per dozen

Discount : Less 5 per cent monthly account.

Delivery : To our address within seven days.

Invoice : Invoice in duplicate required to be posted the same day on which goods are dispatched.

Please quote our order number on all communications.

LETTERS REFERRING TO CREDIT

In commerce the term credit refers to the time allowed for payment. If every firm had to pay for their goods at the time of delivery, the amount of business transacted would shrink to negligible proportions. In the retail trade it is not uncommon for suppliers to allow their customers three months in which to pay the account. Periods of credit range from seven days to six months or longer.

FRED A BAKER

Milliner

14 Greaves Street, Birkenhead.

6th September, 194..

Messrs. Polson, Carlisle & Slatterby,

General Warehousemen,

Bridge Street, Birmingham.

Dear Sirs,

After twenty years' experience in different milliners' shops in this district I have decided to open up on my own account. During my business career I have become well acquainted with many ladies in the town and quite a number of them have promised to support me.

Will you kindly let me know what period of credit you could give from the date of invoice?

The Birkenhead Bank will give you information regarding my financial standing, and the names given below may be approached with reference to my personal character and ability:

Mrs. Grayson, The Elite Millinery Shop, Liverpool Road, Crosby.

Rev. S. Shepherd, The Vicarage, Birkenhead.

Yours faithfully,

POLSON, CARLISLE & SLATTERBY

General Warehousemen

Bridge Street, Birmingham.

8th September, 194..

Miss Freda Baker,

14 Greaves Street, Birkenhead.

Dear Madam,

Thank you for your letter of September 6 asking the period of credit we could allow you and in reply we have to say that we are prepared to supply goods on the condition that payment is made not later than two months from the date of invoice.

Should you find yourself in a position to settle account within thirty days a discount would be allowed of $2\frac{1}{2}$ per cent, but no discount may be deducted should you avail yourself of the two months' credit.

May we take this opportunity of expressing our very sincere wishes for your success in your venture? Our Mr. Slatterby will be happy to call upon you and give you the benefit of his experience, if you will indicate when it would be convenient to see him.

Yours faithfully,

LETTERS OF COMPLAINT

Whether writing a letter of complaint or answering one it is important that careful consideration be given to the wording. If called upon to register a complaint it is not necessary to adopt a disgruntled or sarcastic tone.

If goods have been supplied wrongly it is wise to assume that this was not done of malice aforethought but simply an unfortunate blunder. Where work has been performed inefficiently, the letter of complaint should be couched in terms suggesting that the firm to whom you are writing will be as distressed as you are at the inefficiency.

In other words, a letter of complaint is written in order that the matter may be adjusted satisfactorily and this end is more likely to be achieved by a letter written in a quiet rather than an angry tone.

In a letter of complaint the foundation must be courtesy not curtness.

MANDERS & POTTER

Winstanley Street, Southend.

6th September, 194..

The Wholesale Stationery Company, London, E.C.2.

Dear Sirs,

The goods to our order No. 178 were received yesterday and upon unpacking we found that of the six items delivered, there was a shortage in three, as follows :

Exercise books, 6d. size : shortage of $2\frac{1}{2}$ dozen.

Ready reckoners : shortage of $1\frac{1}{2}$ dozen.

Penholders : shortage of $4\frac{1}{2}$ dozen.

Probably the crate was packed in a hurry and the missing articles may be discovered in your warehouse. Will you be kind enough to send the necessary quantity to complete the order, or, if you prefer, send a credit note ?

We shall appreciate your immediate attention.

Yours faithfully,

Oak Road, London, E.C.2.

9th September, 194..

THE WHOLESALE STATIONERY COMPANY

Messrs. Manders & Potter,

Winstanley Street, Southend.

Dear Sirs,

Investigation has been made regarding your complaint of short delivery and we are at a loss to understand how it came about that you received less than invoiced. Is it possible that goods have been pilfered on the journey ?

A credit note for the value of the missing articles is enclosed, but we should esteem it a favour if you would let us know whether the case bore signs of having been opened. In this event we could lodge a claim with the railway company.

We regret very much that you should have been caused this trouble.

Yours faithfully,

LETTERS REGARDING OVERDUE ACCOUNTS

It is sometimes necessary to urge debtors to make payment. Below is given a series of letters in which it will be seen that the same polite tone is maintained throughout although gradually increasing in severity.

WARNER & Co.

Hardcastle Chambers, Derby.
6th September, 194..Messrs. Wilde & Co., Ltd.
Coventry.

Dear Sirs,

Remittance for our account of £10 3s. 6d. due last month has not yet been received, possibly due to an oversight.

Will you kindly let us have your cheque by return of post, therefore, so that we may put your account in order?

Yours faithfully,

WARNER & Co.

Hardcastle Chambers, Derby.
10th September, 194..Messrs. Wilde & Co., Ltd.
Coventry.

Dear Sirs,

No reply has been received to our letter of 6th September wherein we asked for remittance of our account of £10 3s. 6d.

To avoid further correspondence will you please send your cheque by return of post?

Yours faithfully,

WARNER & Co.

Hardcastle Chambers, Derby.
16th September, 194..Messrs. Wilde & Co., Ltd.
Coventry.

Dear Sirs,

You have not replied to our letters of September 6 and 10, and it is with the greatest reluctance that we have to inform you that unless your cheque is received within seven days from this date we shall be compelled to recover the debt at Law.

Yours faithfully,

WARNER & Co.

Hardcastle Chambers, Derby.
26th September, 194..Messrs. Wilde & Co., Ltd.
Coventry.

Dear Sirs,

Our letters of September 6, 10 and 16 having been ignored, we have no option but to inform you that we are compelled to take legal proceedings immediately.

Yours faithfully,

LETTERS RELATING TO AGENCIES

A considerable amount of business is transacted through the intermediary of agents. An agent is a person, firm or corporate body appointed by a commercial house to deal with business activities in a defined area.

A Manchester firm manufacturing cotton shirtings may wish to extend their interests in London. They would probably appoint an agent, resident in London, whose duty would be to interview buyers, show samples, and generally transact business on behalf of the Manchester firm.

Agents are usually remunerated by payment of a commission so that the more orders they book, the higher will be the remuneration.

How does a firm get into touch with a suitable agent? Here are a few suggestions:

1. By advertising in a trade paper.
2. By approaching one of the firm's customers in the area and asking him to suggest a reliable man.
3. By making inquiries through a bank.
4. In the case of overseas agents an inquiry might be made through the Board of Trade.

BREWER BROTHERS, LTD.
Shirting Manufacturers

Princess Street, Manchester.
6th September, 194..

Mr. Robert Browning,
16 Cheapside, London, E.C.

Dear Sir,

Your name has recently been given to us by The Splendid Shirt Company of London, to whom we wrote asking whether they could recommend a gentleman who might be prepared to act as agent for our firm in London.

The shirtings we make are of first grade quality and we believe that if samples were shown to the high-class shirt manufacturers in London our business could be extended considerably.

Perhaps you will be good enough to let us know whether you would represent us, and if so, will you state which other firms you are representing, and also indicate the commission you would expect?

If you are open to take on this agency we suggest that you pay us a visit in Manchester where we could show our goods and all details could be discussed.

Yours faithfully,

EXERCISES FOR PRACTICE

1. For the benefit of letter writers compile a list of important points which you recommend should be borne in mind.
2. Dear Sirs,

We beg to acknowledge receipt of your kind favour of 16th ultimo

which is receiving our best attention.

We shall send you the new catalogue which we expect will be ready on the 10th proximo—these catalogues, by the way, cost us over a shilling each to produce.

We trust to be favoured with your esteemed orders.

Yours faithfully,

Read the above letter and

- (a) make a list of anything which you could improve ; (b) are there any words or phrases in the letter which could be omitted without detriment ? (c) what are your criticisms ? (d) re-write the letter as you think it should be written.
3. What qualities would you look for if you were engaging a traveller to represent your firm ? A letter emanating from your firm is also a representative ; name the qualities that such a letter should possess.
4. Write a short essay on "Courtesy in Commercial Correspondence."
5. Write a suitable application in answer to the following advertisement :
Wanted by a firm of publishers a young man or a young lady to assist in clerical work, and to interview customers : must be of good address : a knowledge of shorthand, typewriting and book-keeping would be an advantage : give particulars of education and state salary that would be expected. Box F.678 *Manchester Observer*.
6. Draft a circular letter from Jones and Ashworth, Ltd. of 10 Carlisle Street, Sunderland, advising customers that, owing to a breakdown of machinery, deliveries may be late.
7. Write a letter to the Postmaster explaining that on July 10 you will be changing your residence to 15 Poplar Avenue, and asking for the Post Office form, so that arrangements may be made for letters and parcels to be delivered at the new address on and after that date.
8. Pollard Bros of 186 Deansgate, Bury, Lancs. are needing a new lathe. Send an inquiry to the Lathe Manufacturing Co., Ltd. of Birmingham asking for a quotation for different sizes of lathes ; ask for illustrations and inquire about delivery.
9. Draft the quotation that the Lathe Manufacturing Co., Ltd. send in reply.
10. Make out an order form for a 40 in. lathe, such as Pollard Bros. might send.
11. Reply to the following advertisement :
Smart boy wanted, just leaving school : must be energetic, good at arithmetic : application should be in own handwriting : Box B. 170 *Rochdale Guardian*.
12. Write a letter to your former headmaster asking for a reference, a copy of which you wish to enclose in an application for a post.
13. What do you consider to be the advantages of a circular letter ?
14. If you were needing quotations for galvanized iron sheets and did not know the names of manufacturers, what would you do ?
15. Send a quotation in response to an inquiry from Grey & White, Ltd. of 14 Caldwell Road, Bletchley, for printing paper at 1s. 1d. per lb., glazed paper at 1s. 7d. per lb. ; discount 2½ per cent monthly account ; delivery from stock, carriage paid.

16. Samuel Crowther of Sheffield wishes to buy machinery for his printing works but before doing so writes to the Modern Letterpress Machinery Co., of Leicester, inquiring the period of credit that would be allowed. Write this letter.
17. Reply to the last mentioned letter from the Modern Letterpress Machinery Co., asking (a) the approximate value of the machinery to be ordered ; and (b) for references.

LESSON NINE

SALESMANSHIP IN LETTERS

MANY firms rely to a considerable extent upon sales they make through the medium of letters. These are printed or duplicated and dispatched in large quantities to specially selected addressees. This is an effective and economical means of getting into touch with prospective customers.

Selling letters of this description must be very carefully drafted. The reader's attention needs to be sustained from the opening sentence, otherwise there is every chance of the communication finding an immediate home in the wastepaper basket.

The technique employed in the composition of such letters is very much the same as in ordinary commercial correspondence, that is, the emphasis must be upon *you* : the first person should be eliminated.

If a selling letter is carelessly composed it is simply a waste of time and money to send it.

Read the following letter :

Dear Sir,

We have pleasure in offering you our Acme trousers press, as illustrated in the enclosed pamphlet.

The price is 47s. 6d. carriage paid and we can deliver from stock.

We shall be glad to receive your cheque with order.

Yours faithfully,

You will notice that in the letter the main points are (a) the price, and (b) the importance of sending a remittance. The technique of salesmanship is entirely absent. The impression that the reader gets is an unfavourable one and the reaction is a mental determination not to part with money.

It may be taken as an axiom that nobody enjoys parting with hard-earned money. The purpose of a sales letter is to break down this natural barrier. The letter should convince the prospective customer that it is well worth while sacrificing a little cash in view of the splendid benefits that will be obtained in return for the expenditure.

There are several steps to mount in bringing about the desired result :

1. The reader's attention must be obtained.
2. The reader's interest must be aroused.

3. The reader's desire must be developed.
 4. The reader must be induced to take immediate action.
- Let us re-write the above letter bearing in mind these points.

Dear Sir,

Obtain You must have noticed that every well-dressed man has a perfect crease in his trousers. Would you not like always to look your best? You cannot be smart with baggy trousers. People would regard you as careless and slovenly.

Arouse interest A man who wishes to be a credit to himself, his family and his firm, is prepared to go to a little trouble to achieve that end. You could turn yourself out, day by day, with perfectly creased trousers simply by the expenditure of a few minutes' trouble every night. But, you must have the right trousers press, and that is the Acme, as described in the enclosed illustrated pamphlet. The Acme press costs only 45s. and it will last a lifetime. It takes but two minutes to use. There is a tremendous demand for the Acme press, but one will be delivered to your home within two days, if you place your order immediately.

Induce immediate action Do not hesitate! Sartorial efficiency is within your grasp! Send your order to-day!

Yours faithfully,

After a certain period, say a fortnight, a list is made of all those who have not placed an order, and to these, what is known as a follow-up letter is sent. Here is a specimen.

Dear Sir,

Our campaign to acquaint discriminating people with the details of our Acme trousers press has met with a most encouraging response. We are receiving letters daily from satisfied users.

Possibly, you have placed our letter and pamphlet on one side with the intention of ordering later on. However, stocks are dwindling and soon our customers will have to be asked to wait for delivery.

If you reply by return we can dispatch immediately.

You will feel better if you are well dressed, and you cannot be well dressed unless your trousers are well creased. People judge you by your appearance.

An order form is enclosed. Order the Acme press to-day.

Yours faithfully,

EXERCISES FOR PRACTICE

- 1 Study any sales letters that arrive at your home and see whether you could improve upon them.
- 2 You are about to put on the market a new cigarette lighter. Draft a selling letter designed to bring you orders.
- 3 Take any magazine and study the advertisements. Notice particularly

how rarely the first person is used.

4. Name the selling points you would introduce in a sales letter acquainting the people to whom you were writing of a new restaurant you had opened.
5. Collect as many advertisements of soap as you can : then make a careful comparison with a view to deciding which is the best. Make a list of the "telling" statements and draft a sales letter for a new soap you are about to introduce to the public.

ANSWERS TO QUESTIONS

Lesson One

No. 2.

Posse of police ; litter of kittens ; shoal of fish ; bunch, or cluster, of flowers ; covey of partridges ; bevy of quails ; shoal of herrings ; pack of hounds ; congregation of worshippers ; tribe of natives ; drove or herd of cattle ; troop of antelopes ; swarm of bees ; tuft of feathers.

No. 6.

(a) courageous, (b) unimportant, (c) heaven, bliss, (d) perfume, (e) overstate, (f) ancient, antique, (g) mariner, (h) calamity, (i) happen, (j) beggar, (k) nimble, (l) old-fashioned, (m) blunt, stupid, (n) freedom, (o) lucky, prosperous, (p) clever, gifted.

Lesson Two

No. 5.

"Yes," I said, when my father asked me whether I could go to the village for him. I had to go, of course : when my father asks me to do something it is a command. "If you can get there and back under an hour, Harry, I'll give you a shilling."

Needless to say I jumped at the offer and was back again in fifty minutes.

"Very good, my boy," my father commented when I returned.

No. 6.

- (a) For his birthday he received a watch, a pen-knife, two packets of chocolate, five books and a walking-stick.
- (b) It was not long before the master called out, "Stop and listen to me !"
- (c) "This insect," said the professor, "is a caterpillar."
- (d) "What is your name ?" asked the policeman.
- (e) "Let's go for a swim," George cried out.
- (f) "Do you know the proverb 'a rolling stone gathers no moss' ?" I asked him. He said that he had never heard of it.

No. 7.

(a) He asked whether the news had reached the parson. I told him it hadn't.

(b) It was raining, snowing, hailing and blowing when we arrived.

No. 8.

Mr. Brown's family arrived at the station at four o'clock : they came by 'bus. The train hadn't arrived, of course, so they'd to wait. Young

Tommy was very excited. "Where's the train?" he demanded; "she'll never be here." Soon, however, the train's smoke could be seen and the driver's mate was visible on the footplate.

Lesson Three

No. 1.

The chairman asked whether the minutes could be taken as read but Mr. Smith pointed out that he had not had the chance of studying the minutes as he had not received a copy. He suggested that the minutes be read. The chairman agreed and asked the secretary to read the minutes of the last meeting.

No. 2.

Addressing the workpeople the manager said: "Your splendid effort during the past twelve months is very greatly appreciated. Without that," he went on, "the progress I am able to report could not have been made. The production has been increased by 25 per cent and the firm's reputation for reliable goods grows every year."

No. 3.

Councillor Baker, addressing his constituents in Greengate Street Council School on Tuesday evening, said that he was delighted to find so many present to hear him give an account of his stewardship during the year which had just ended. He expressed the hope that his hearers were satisfied with the work he had done on their behalf in the council chamber and added that it had been his one aim to protect their interests. He said that he had not departed from that lofty resolve.

No. 4.

- (a) The umpire said that he had given him out.
- (b) The sergeant told the men that they must wait there until they were relieved.
- (c) Jones Minor, upon entering the headmaster's room, asked whether they could have a holiday that day.
- (d) When I demanded of the tailor how much longer I should have to wait, he promised to have my coat ready by Saturday.

No. 5.

- (a) "I had a rough time during the storm," declared the pilot.
- (b) "I shall not take any further amendments," announced the chairman.
- (c) The boy said to his mother: "Why don't the stars fall down?" She replied: "Ask your father!"
- (d) Answering a shareholder, the chairman said, "Profits are likely to be less in the immediate future, owing to the long strike that has taken place."

Lesson Five

No. 1.

- (a) Unapproachable; (b) praiseworthy; (c) unfavourable; (d) impromptu; (e) embarrassed; (f) ambition; (g) incessantly; (h) irrelevant; (i) pessimist; (j) chiropodist; (k) atheist; (l) unpunctuality; (m) unadulterated; (n) epica; (o) milliner; (p) unanimously.

SECTION III

TYPEWRITING

INTRODUCTION

THE young person with the ability to use a typewriter efficiently is in possession of a means of independent livelihood and of entry to a permanent, and often progressive, career in a commercial or professional office. Hundreds of thousands of typists are in constant employ in English-speaking countries alone. A large proportion of this great number is a changing section, owing to promotion to more responsible positions and to resignation on account of marriage. Thus there is always a never-satisfied demand for typists.

The typist is advised to add shorthand to his or her typewriting skill, if keen to make progress as a shorthand-typist in an office or as a personal secretary. Although it is possible to teach yourself shorthand, by obtaining the necessary textbooks and undergoing the patient study and practice this subject demands, you will find it advantageous to learn either in a class, under a good instructor, or to take private lessons from an expert tutor.

Skill in any manual act can be gained only by intensive practice. That is to say the same acts or motions must be done over and over again until they can be performed automatically, or sub-consciously. Before you can use a typewriter, it is necessary to train your brain and your fingers to respond automatically to the impulses set up by the sight or sound of the words. In typewriting, you are required to train your brain and your fingers to respond automatically, in the first instance, to the sight of the component letters of the words that appear in the copy. How this is accomplished, you will discover by a close study and practice of the early lessons that follow.

In these lessons it is assumed that you are sitting in front of your machine and that you are seeking to put into practice the things you are asked to do. It is assumed also that you wish to learn to type expertly—that is, by what is known as the *touch* system. If you do not wish to learn properly, there is no point in spending time and energy in the way these lessons require you to do, and, in case you have learned to type before, and are now seeking to improve your skill, you will find it advantageous to regard yourself as a beginner, and start right from the first lesson.

Before you begin, here are a few facts regarding typewriters. There are two main kinds of machine—one known as *standard* typewriters, and the other known as *portable* typewriters. Standard typewriters are full-size machines—the kind you generally see in offices. Portable typewriters are smaller in construction and much lighter in weight. If you are purchasing or hiring a typewriter for home use, or for learning, a portable typewriter will suit your purpose quite well. You should, however, make sure that it is a portable with four banks or horizontal rows of keys, and not three rows. The reason for this is that standard typewriters are all made with four banks of keys, and you may later wish to transfer your skill to a standard machine. It is therefore important that the keyboards should be similar.

Where names of the parts of the typewriter are mentioned in these lessons

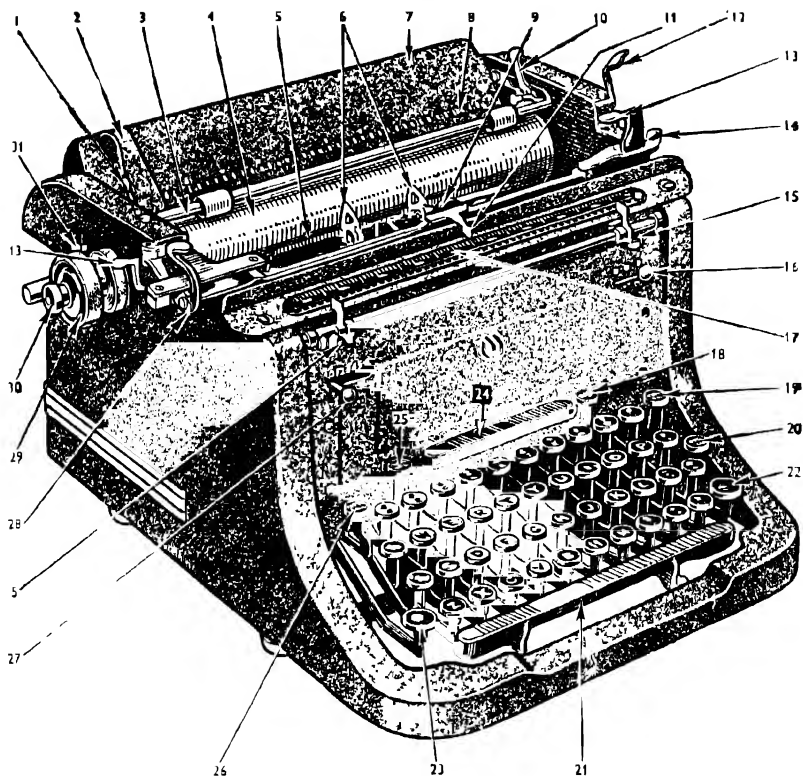


Fig. 1A. Modern standard typewriter. Machine parts : 1. Line space adjusting lever ; 2. lateral paper guide ; 3. paper holder bail ; 4. cylinder , 5. cylinder scale ; 6. card holders ; 7. paper rest . 8. paper centring scales ; 9. envelope holder arm ; 10. paper holder bail release lever ; 11. carriage frame pointer , 12. paper release lever ; 13. carriage release levers (right and left) ; 14. marginal stop release lever ; 15. marginal stops ; 16. ribbon indicator , 17. front scale , 18. tabulator stop set key ; 19. margin release key ; 20. shift lock , 21. space bar ; 22. shift key, right ; 23. shift key, left , 24. key set tabulator bar , 25. tabulator stop clear key ; 26. back spacer ; 27. touch tuning ; 28. line space lever ; 29. cylinder knob, left ; 30. variable line spacer button ; 31. line space disengaging lever.

it will be necessary for you to try to identify them on the machine you are using. Figs. 1A and 1B are illustrations of modern typewriters, with the parts named and numbered. With new machines there is always a book of instruction showing a similar diagram , or, if you are not using a new machine, you can get a copy of the machine instruction book by writing to the manufacturers or to a local typewriter agent. This machine instruction book

TYPEWRITING

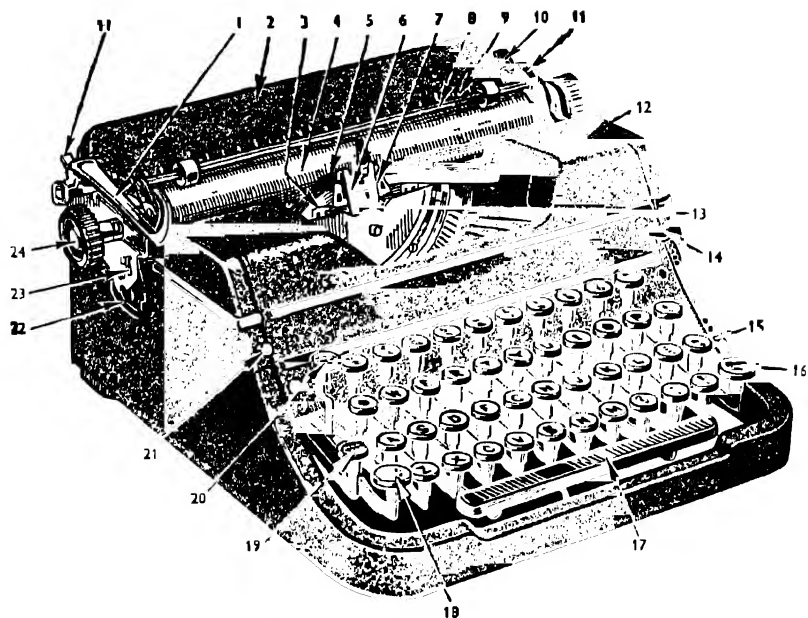


Fig. 1B. Modern portable typewriter. Machine parts 1 Line space lever, 2 paper fingers, 3 paper scale, 4. platen, 5 line finder scale, 6 type bar guide; 7 ribbon carrier, 8 paper bail, 9 paper centring scales, 10 feed roll release lever, 11 carriage release lever, 12 outside frame cover, 13 cylinder scale pointer, 14 touch tuning, 15 colour selecting lever, 16 shift key, right, 17 space bar, 18 shift key, left 19 shift lock, 20 back spacer, 21 marginal stop release button, 22 carriage centralising lock, 23 line space adjusting lever, 24 variable line spacer platen knob

will help you to understand the use of the various devices with which your typewriter is fitted

LESSON ONE

THE GUIDE KEYS

YOU cannot use the typewriter for any serious purpose until you can operate the keyboard accurately at a reasonable speed. It is possible to type accurately at speeds ranging from 25 to 100 words a minute because the eight fingers are made to become, as it were, a part of the machine. There must be a perfect connexion or link, between you and the keyboard, and your fingers form this link.

This is done by carrying out the following instructions, and practising Exercise 1 over and over again. That is to say, the exercise must be typed not merely until you think you can do it properly, but until all the fingers are working automatically and until you can move any required finger

without hesitation for any one of the given letters. The paper should be inserted in the machine by the method described in Lesson Two.

Bend the fingers at the knuckles, as shown in Fig. 2. Place the left fourth finger (the little finger) on the outside left key of the second row of keys, the third finger on the key adjacent to it, the second finger on the next, and the first finger on the next. Do the same with the right hand, placing the fourth finger on the semi-colon key (the key next to the outside-right key) ; the third finger on the key next to it, the second finger on the next, and the first finger on the next. If you have done this correctly your fingers will appear on the keyboard as shown in the illustration.

It is necessary to become thoroughly accustomed to keeping your fingers in this position while operating the keys upon which they are placed. These keys are (in the order in which they appear) : *a s d f j k l* ;

In order to master this part of the work, you do not need to memorize the letters, or try to remember where the letters are situated, or to look at the keyboard to find the keys, or to watch your fingers. If you do, you will be hindering your progress and not aiding it. The way to succeed in this first step is to practise Exercise 1, and to practise it in the following manner.

EXERCISE 1

Place your fingers on the eight guide keys and repeat the following exercise over and over again, until your fingers respond automatically to the sight of the letters, and until each finger can be employed independently of the other fingers. The margins should be set at 10 and 75.

asdf ;lkj asdf ;lkj asdf ;lkj asdf ;lkj

Your left-hand fingers are (if you have carried out the instruction so far)

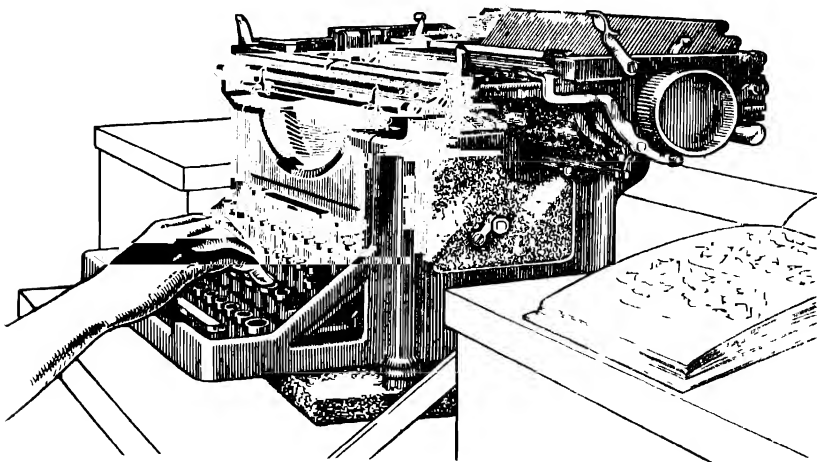


Fig. 2. *After assuming the correct position the hands should rest lightly the guide keys with the fingers bent at the knuckles as shown.*

resting upon the four outside keys of the second row. Therefore, these four fingers will correspond exactly with the letters *a s d f* in the exercise. Thus, if you lift your little finger and strike down the key beneath it, the result is bound to be the typing of the letter *a*. Similarly, if you raise the next finger and strike the key beneath it, the result will be the typing of the letter *s*, and so on. If the fingers are in the correct position the result of this kind of movement is bound to be always the same. If the hand has moved and the fingers are out of position, it will be realized that the result can be anything!

The same remarks apply to the right hand. Note, however, that the movement of the fingers of the right hand must begin with the fourth finger, as is the case with the left hand. Therefore, by raising the little finger of the right hand and striking down the key beneath it, the result must be the typing of the semi-colon ; , and so on with the other fingers.

To master these eight keys, all you have to do is to make yourself look at each individual letter in the exercise while you make each individual finger concerned lift and strike down the key beneath it. If you are not looking at the letter in the book, and really thinking of that letter, while the finger is being caused to move, you are not learning the keyboard. It is this sight and thought of the letter in the exercise, while making the corresponding movement with the correct finger, that enables you to master the keyboard—that is, to *know* where the keys are situated. Note very carefully how different this is from *memorizing* the keyboard—that is, trying to memorize the fact that *s* comes next to *a*, and *d* comes next to *s* and so on. This is not only a waste of time, but it does not enable you to operate the keyboard efficiently.

If you are looking at the keyboard to see where the key is, or if you are watching your fingers make the movement, you will take years to learn to type, and even then you will not be able to type accurately at a reasonable speed. It is of great importance that your whole mind should be concentrated (with the aid of your sight) upon the letter in the exercise, while the finger concerned is making the movement. That is exactly how the whole of the keyboard is mastered.

You should now practise Exercise 1. For this purpose, place your carriage at the end of the line, place your fingers correctly on the eight keys, and then, while counting slowly *one - two - three - four - five - ; - one - two - two - three - four - five -* cause each finger to lift and strike in turn, one after the other, commencing with the little finger of the left hand, and, in the second group of letters, with the little finger of the right hand. The rate of striking the keys must be absolutely regular. Count, as instructed, either mentally or aloud, and make your fingers keep time with your counting. Allow each finger to rise and strike its key with each beat. *Five* is, of course, the beat for the space-bar, which should be struck with the right-hand thumb.

In striking each key, you must (1) be able to raise the finger without causing the other fingers to move; (2) stop the finger from going right down with the key when you have struck it; that is to say, you must strike the key down and not press or push it down; and (3) return the finger to its original resting position on the key top when the movement of the key is completed and before you begin to strike the next key.

LESSON TWO

IMPORTANT MACHINE DETAILS

IF you have carried out the instruction in the first lesson, and have undergone sufficient practice, you should now be able to type several lines of Exercise 1, with complete regularity of finger action. Before proceeding any further, see if you can type five lines of Exercise 1, without altering the pace at which you strike down the keys, without stopping at all until you reach the end of your line, and without looking away from the exercise in the book.

Before proceeding to the next exercise, you should learn one or two details in regard to the use of your machine.

Inserting the paper. It is advisable, for the present, to use paper of a standard size—either quarto paper (8 in. x 10 in.) or foolscap paper (8 in. x 13 in.). If you use scraps of paper of any odd size, you will not get an exact idea of the use of the machine in relation to the arrangement of the work upon the page. To insert the paper, hold the sheet in the left hand, place the top

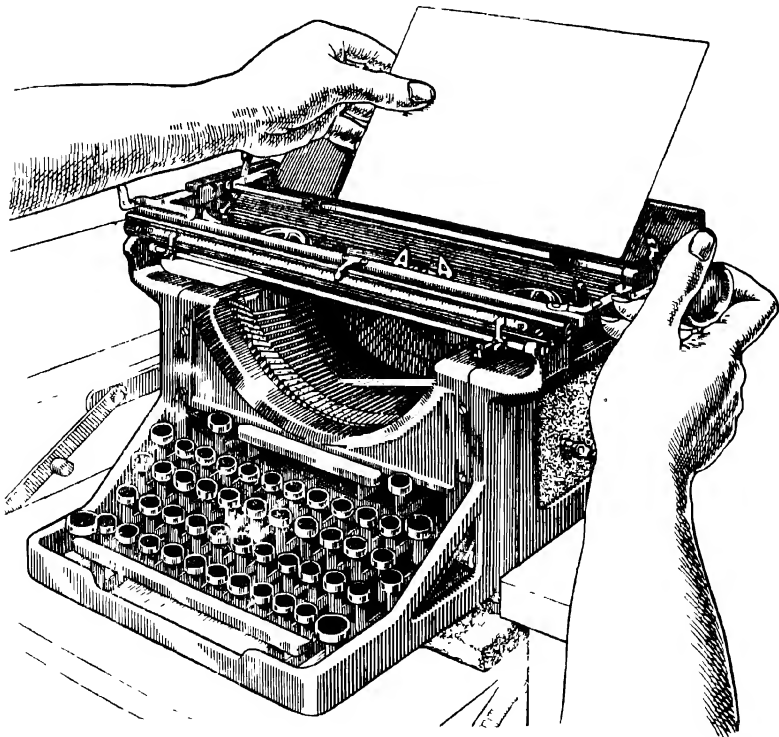


Fig. 3. Correct method of inserting the paper into the machine.

edge between the paper roller and the paper shelf, so that the paper is standing on the feed rolls, which you will see down behind the paper roller (Fig. 3). Then give a sharp turn to the right-hand cylinder knob with the right hand, at the same time releasing your grasp of the paper with the left hand. The result will be that the front of the paper will appear before you, in front of the paper roller. Then turn up the paper with the aid of the right cylinder knob, so that the top part of the paper is held by the paper bail.

Now find the line-spacing gear lever. This lever enables you to type in what is called single, double, or treble line-spacing. For practice purposes, it is advisable, from the point of view of economy, to type in single line-spacing. For this purpose, you switch the lever so that it is fixed at the point marked 1. The points marked 2 and 3 are the points for double and treble line-spacing respectively. If the paper has been fed into the machine crookedly, you can straighten it by depressing the feed roll release lever, and adjusting the paper so that the top edge is straight with the line gauge or line indicator. Do not forget to replace the feed roll release lever in its normal position when you have done this.

Margins. It is customary in all typewriting work to allow sufficient margins at the top, bottom, left-hand and right-hand edges of the paper. Usually a one-inch margin is provided at the top and left-hand edges, and a half-inch margin at the right-hand and bottom edges. In order to secure a top margin of one inch, you must first see that the top edge of the paper is flush with the top of the line gauge which is shown in Fig. 4. To adjust the paper for this purpose, use the variable line spacer, and turn the roller until the top edge of the paper is flush with the top of the line gauge. Then release the variable line spacer, and the paper will be fixed in that position. Now turn up the paper six single line-spaces. There are six single line-spaces to the inch on machines built to standard pattern, and therefore, by carrying out these instructions, you can ensure a one-inch margin at the top.

For the left-hand margin you must fix the left-hand margin stop. When inserting the paper you must make sure that the left edge corresponds with the O of the writing scale. This means that if you type with the carriage indicator standing at O, the typewritten characters would begin just inside the left edge of the paper. On modern machines there is a paper guide attached to the paper shelf, and this marks the position for the left edge of the paper when inserting. All you have to do is to see that the indicator on the paper guide is pointing to O on the small paper guide scale (Fig. 5).

When the paper is inserted in this way, find the position of the margin

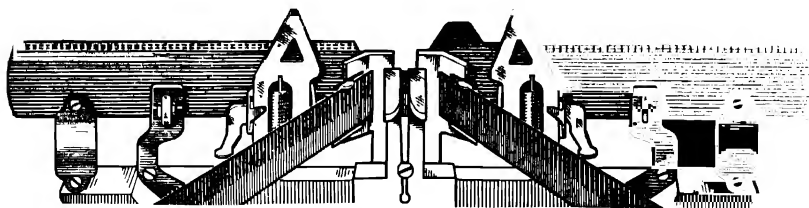
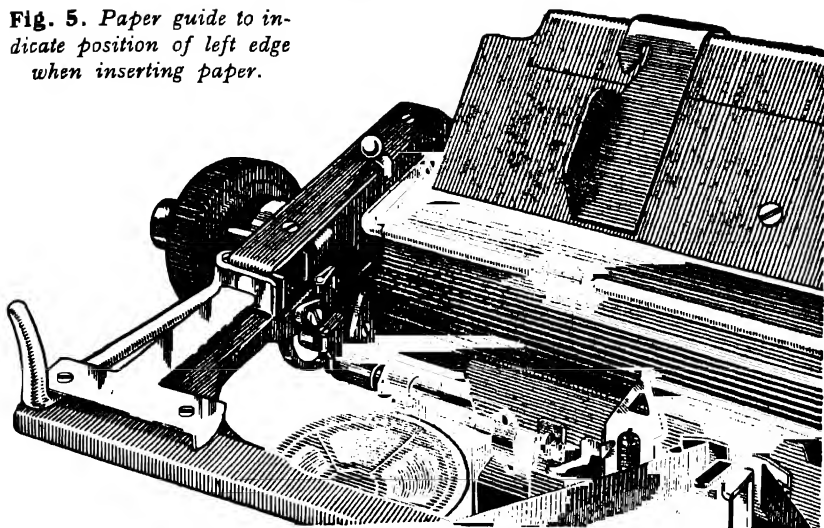


Fig. 4. Line gauge. When inserting paper in the machine ensure that the top edge of the paper is in accurate alignment with the line gauge.

Fig. 5. *Paper guide to indicate position of left edge when inserting paper.*



stops on your machine. The position varies on different machines. On some machines—the Underwood and the Remington, for example—the margin stops are in front of the machine. On other machines such as the Royal, L C Smith, Bar-Lock, and Imperial, the margin stops are behind the paper shelf.

To secure a left-hand margin of one inch, you must fix your left hand margin stop at point 10 of the scale, because on machines fitted with pica type there are 10 character spaces to the inch. Or, if you are using a machine fitted with elite type (12 character spaces to the inch) you must fix your left-hand margin stop accordingly. The quickest way to do this is to place your carriage indicator at point O of the scale, tap the space-bar ten times, so that the carriage moves exactly ten spaces, and then move the left-hand margin stop as far as it will go. Alternatively, you can adjust the margin stop with the aid of the margin scale and indicator provided for this purpose. The position and method differ according to the kind of typewriter you are using.

For purposes of this instruction, it is assumed that you are using paper 8 inches wide. Therefore, your 8-in. paper measures 80 character spaces.

In order to secure a half-inch margin at the right-hand edge of your paper, you must fix the right-hand margin stop at point 75 of the scale. The right-hand margin stop acts as a line lock: that is to say, when the point is reached at which the margin stop is fixed, the typebars will not function, and the line is locked. If it is necessary to type beyond this point, all you have to do is to depress the margin release key. Attached to the right-hand margin stop is a bell trip, causing a warning bell to sound when the carriage is five or six spaces away from the margin stop point. You should train yourself to listen for this warning bell. It is an important question when you reach a stage where you are able to copy paragraphs or pages of

continuous matter. At present, you can continue your exercise lines until you hear this bell, and, after the bell has sounded, complete the group of letters which you are typing at that moment, but do not attempt to start a fresh group.

If you want to move the carriage to the right, for any purpose other than when returning the carriage at the end of a line, this can be done simply by drawing the carriage back with the hand. To move the carriage to the left, however, other than by tapping the space-bar or by depressing character keys, you should use either of the two carriage release keys, which you will find on either side of the carriage. At the end of every line, however, and in order to place the paper and the carriage in position for the commencement of a new line, you must use the carriage return lever. This lever enables the paper to be turned up for the next line, and the carriage to be returned to the commencing point of the line, with one movement. Follow this instruction carefully when using this lever.

At the end of the line, take the left hand up from the keyboard, contact the carriage return lever with the outside of the first finger, and, supported by the other fingers of the left hand, throw the carriage back to its starting point with sufficient force to ensure that the carriage reaches the left-hand margin stop. You will soon find that a sharp contact with the lever enables the right kind of force to be used, so that the paper is turned up before the carriage starts to move. Do not catch hold of the lever with the finger and thumb, or draw the carriage back, or use both hands for this purpose. When the movement has been made, bring the left hand back to its position on the guide keys. The right-hand fingers should, of course, be left on their guide keys during this operation.

LESSON THREE

FIRST STEP IN KEYBOARD MASTERY

IF you place your fingers on the eight guide keys, in the manner you have already learned, you will see that there are two unoccupied keys in this guide key row, between the two hands. These keys, the *G* key and *H* key, are operated by the left and right hands respectively. The *G* key is struck by the first finger of the left hand. This must be done by allowing the first finger (the finger that rests on the *F* key) to reach out and strike the new key *G*. Note that the first finger must reach out: that is to say, you must not allow the whole hand to move, or the other fingers to come off their guide keys. The same instruction applies to the *H* key, which is struck by the first finger of the right hand. This movement is shown in Fig. 6. Examine the illustration very carefully, and make sure that you understand the movement. Then proceed to the next exercise.

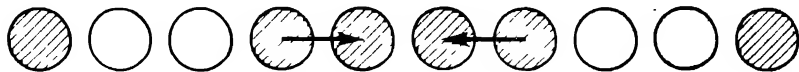


Fig. 6. First finger movements for their adjacent keys. These movements are indicated by the arrows which show the action from *F* to *G* and *J* to *H*.

EXERCISE 2

Set the margin stops at 10 and 75, and repeat the following exercise over and over again until the movement becomes quite automatic.

asdfgfa ;lkjhj; asdfgfa ;lkjhj; asdfgfa ;lkjhj;

As was the case with Exercise 1 this exercise must be practised over and over again. Use the same regular beat and the same pace (approximately two strokes a second) as for Exercise 1.

When you are satisfied with your skill—that is to say, when you can type several lines of the exercise without stopping and without error, proceed to Exercise 3. This exercise should first be practised in this way: take two words only, and repeat the two words together, over and over again, until you can type them without hesitation. Then take two more words and treat them in the same manner. Then type the four words you have practised one after the other, and repeat, over and over again. Then practise a further group of words, in exactly the same way. When you have treated the whole of the words in this manner, you can try to type the complete exercise. Do not, however, try to type the complete exercise until you have practised the individual words, as instructed.

EXERCISE 3

Set the margin stops at 10 and 75. Practise two words at a time, repeating until the fingers respond automatically to the sight of the letters.

Line 1. sad ask gag lag had dak has lak

Line 2. fag hal ash hag fad lah fah jas

Line 3. dad lal gas alf jag sag kad g;h

The next exercise is a little more difficult, because the words are longer. Proceed in exactly the same manner as described above. Bear in mind that it is this practice that enables you to master the keyboard.

EXERCISE 4

Master each line before proceeding to the next.

Line 1. glass flash dash; jaffa

Line 2. flags dada; half; fall;

Line 3. shall salad flak; halls

Line 4. gall; gala; lash; alas;

When you have completed the above practice, you can try Exercise 5. In this instance, you can use the exercise as a test. That is to say, see if you can type the complete exercise without the practice recommended for the preceding exercises. Type the exercise once; but note that it is not a test of your skill unless you resolve to type the complete exercise without stopping and without looking away from the book until you have finished typing the last word. When you have done this, examine your work and mark off the errors. Then practise the words in which these errors occur, and try the test again. Persevere with the exercise in this manner, until you are satisfied that your fingers are actually responding automatically to the sight of the letters in the copy.

EXERCISE 5

Line 1. dad has had a fall; ask a lass; ask a lad;
 Line 2. has a lass had a glass; a lad has had a jag;
 Line 3. ada has had gas; a fag has half a jaffa;
 Line 4. dad has had half a salad; flash a flag;

LESSON FOUR

HOW TO FIND NEW KEYS

ONCE the fingers are accustomed to occupy the eight guide keys and to operate these keys with independent finger action, you have accomplished the first essential step in learning to operate the keyboard. Until this has been accomplished, however, it is useless to proceed. Therefore, make quite sure that you can type Exercise 5 accurately and without hesitation.

The next step is to train the first fingers to operate all the keys allocated to them. Examine the keyboard, and you will see that the keys can be regarded to some extent as being arranged in some sort of order from the bottom to the top of the keyboard, as well as from the left to the right of the keyboard. That is, there is a vertical order of the keys as well as a lateral or horizontal order. The first finger of each hand is trained to find and strike each key allocated to it, working always from the guide key it has already been trained to occupy. Fig. 7 shows the first group of keys allocated to the first fingers.

You will see that each of the first fingers has two vertical rows of keys to operate. In learning, you must master one of these rows for each hand. Examine the letters given in Exercise 6.

EXERCISE 6

Set the margin stops at 30 and 75, and type the exercise twice in each line of typewriting. Repeat the exercise over and over again.

af fr af ar ;j ju ;j ;u

Notice that in this exercise the only new work you are required to do is to move the first finger from its guide key *F* up to the next horizontal row

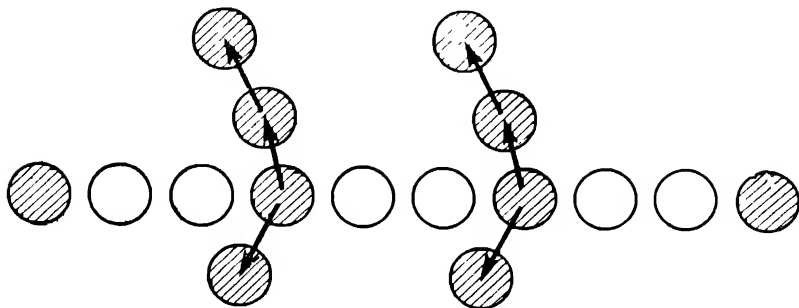


Fig. 7. First group of keys which are operated by the first fingers.

and a little to the left, and to strike the key it finds there. If the finger does this, it must strike the *R* key, and cannot strike any other key. Similarly with the right hand, the first finger is required to move from its *J* key to the next row above it, and a little to the left, and strike the key it finds there. The result must be that the finger strikes the required *U* key.

Before proceeding to practise this exercise, there are two or three important points to notice. (1) The fingers must be on their eight guide keys before you begin to type the exercise, and must remain there throughout the whole of the work. (2) Only the first finger must move when you are trying to find and strike the *R* or the *U* key; the other fingers must remain immobile on their guide keys. (3) The striking of the *R* or the *U* key must be a sharp, quick blow; as soon as the finger touches the *R* key or the *U* key and strikes it down, contact with the key must cease. (4) When the strike has been made the first finger must be returned immediately to its position on the guide key *F* or *J*.

Miss out any one of these four points and your progress as a touch operator will be very slow indeed. Although each of the points is equally important, the last point (point 4) is one to which you must give special attention, because you will be liable to overlook it. The finger must go back to its home key immediately after striking the away key. It is a very simple instruction, but if you are not careful you will find that you forget to do this, and you will leave the finger up in the air or hovering over the new key *R* or *U*.

Experiment with this practice first. Watch your fingers make the movement two or three times, if you wish. Then, with your eyes on the exercise, and on nothing else, practise the exercise in the same way as you have practised the previous exercises. This time count to yourself *one - two - three*; *one - two - three*. The third beat in this counting is, of course, the beat for the space-bar.

You must not be satisfied with your skill in this exercise until you can type a complete line, repeating the exercise over and over again, from the commencement of the line to the end, always with the same timing of the strokes, and at the same rate of about two strokes a second. If you have to hesitate or stop, you are not able to type the exercise—in other words, you have not mastered the movements. At the end of each line examine your work and make sure that you are striking the correct keys.

Remember that you cannot type the exercise too many times. It is not sufficient just to be able to do it once, or twice, correctly. Go over it again and again, until you are quite sure you could not hit any other key than *R* when you see the letter *r* in your copy, and so on. Striking some other key instead of the *R* or *U* even once in your practice simply means that you have not mastered the movements, and, unless you master these individual movements in turn, you will not master the keyboard.

Finally, it is of no use practising this or any other keyboard exercise if you are not looking at the actual letters in your copy (that is, the exercise in this book) and causing your fingers to strike each key while you are looking at that actual letter in the book, and thinking of that actual letter. You must be fully conscious of each movement. It is this consciousness that trains you finally to respond automatically to the sight of the letters.

When you are satisfied with your skill, proceed to Exercises 7, 8 and 9, in turn.

You will see that Exercise 7 is a similar exercise to Exercise 6, with the difference that the first fingers are required to reach down to the bottom row instead of up to the third row. The new keys *C* and *N* are, again, to the left of the home or guide keys *F* and *J*. Examine the movements first, then practise the new exercise in the same way as the previous exercise.

In Exercise 8, the new keys are the figures 4 and 7. You will observe that each new key you are required to learn lies to the left of the key you have previously learned. If you grasp this fact fully you will have no difficulty with Exercise 8, in which the new keys 4 and 7 lie above and to the left of the previously mastered keys *R* and *U*. Examine these keys in the illustration and on the keyboard, but make sure that you are not trying to practise the exercise while watching the illustration or the keyboard. It will take you much longer to learn to type if your whole attention is not devoted to the exercise in the book while you are typing.

EXERCISE 7

af fc af ac ;j jn ;j ;n

EXERCISE 8

af ar r4 a4 ;j ;u u7 ;7

EXERCISE 9

af ar ac a4 ;j ;u ;n ;7

Exercise 9, you will observe, employs the whole of the six new keys you have now learned. You should secure as much practice upon this exercise as you can, because it trains your fingers to select the correct movement for reaching either the *R*, *C* or 4 in the left hand, and the *U*, *N* and 7 in the right hand.

When you are satisfied with your skill in Exercise 9, and not before, you can proceed to the additional word exercises provided below. Practise these word exercises in the same manner as that described in Lesson Three.

EXERCISE 10

Set the margin stops at 10 and 75, and practise two words at a time.

Line 1. far jug fur rug jar hug auk raf
 Line 2. car urn nun run rac cud fun gun
 Line 3. nag fug hun jan cur dun f47 j74
 Line 4. gnu lug ran ark 474 747 c74 n47

EXERCISE 11

Line 1. afar; juju; frau; jars;
 Line 2. jugs; hark; lard; duff;
 Line 3. fauns crack hunch crags
 Line 4. curd; drug; urns; ruck;
 Line 5. ranch frank lunch gruff
 Line 6. shuns churn fru47 jur74

EXERCISE 12

- Line 1. a lad has had a far run;
 Line 2. a lass has had a grand gala;
 Line 3. a car has had a sad crash;
 Line 4. ask all lads and granddads;

LESSON FIVE

FIRST FINGER PRACTICE

YOUR next task is to apply the same methods of key-finding and key-learning to the next exercise. Examine the exercise, together with Fig. 8. Observe that in this exercise you are making exactly the same kind of "left" movements, but this time your "base" is the *G* key for the left hand and the *H* key for the right hand. Thus to find the *T* key, the left first finger is required to move above and to the left of the *G* key.

EXERCISE 13

- Line 1. ag gt ag at ;h hy ;h ;y
 Line 2. ag gv ag av ;h hb ;h ;b
 Line 3. ag at t5 a5 ;h ;y y6 ;6
 Line 4. ag at av a5 ;h ;y ;b ;6

Line 1 provides you with the practice for the new keys *T* and *Y*. Line 2, *V* and *B*, and line 3, the figures 5 and 6. Line 4 is a revision exercise, as with the previous sets of keys, and enables you to train the fingers to select from the three different movements which the first finger of each hand has to make in order to find the correct key in any of the three non-guide key rows. When you can type line 4 at will, without hesitation, and without error, you will know that you have mastered these keys.

Proceed, after you have reached complete proficiency with line 4 to the following additional practice exercises.

You will make mistakes when practising these exercises, if you tackle them as complete exercises. Use the method of practising two words at a time as recommended in a previous lesson. This is hard, intensive work,

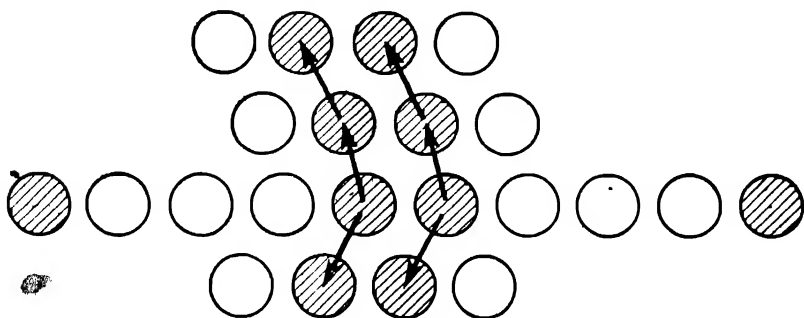


Fig. 8. Second group of keys which are operated by the first fingers.

but it is the one way to make sure that you become master of the keyboard.

EXERCISE 14

Line 1. rfa tfa uj; yj; fra fta ju; jy;
 Line 2. cfa vfa nj; bj; fca fva jn; jb;
 Line 3. gra gta hu; hy; gca gva hn; hb;
 Line 4. f45 f54 j76 j67 g45 g54 h76 h67

EXERCISE 15

Line 1. tars; rats; tryst truth
 Line 2. vats; buts; curs; buns;
 Line 3. truck snubs brack gravy
 Line 4. craft blunt catch navy;

EXERCISE 16

Line 1. rashly; unsung; vagrant brandy;
 Line 2. thanks; yachts; brutal; vandals
 Line 3. custard vulgar; naughty baulks;
 Line 4. tabs 57 hubs 47 guns 65 vats 74

EXERCISE 17

Line 1. try that brandy at that funny bar;
 Line 2. has that lass a vacant flat;
 Line 3. buy a banana bunch at that stall;
 Line 4. a navy lad calls at all naval yards;
 Line 5. can that rural vicar buy sugar candy;
 Line 6. hand back 47 jars and 56 rugs;

LESSON SIX

FOURTH FINGER PRACTICE

UNLESS you are practising with all your fingers permanently on the guide keys, and allowing only one finger at a time to be away from the guide keys, you are not mastering the keyboard. It is necessary to remind you of this fact, because you have probably found that it is much easier to make these movements without this permanent guide key contact. It is not a question of ease, however. It is a question of making your fingers move in any required direction and to any required distance; and if the fingers are not given a permanent home base, or starting-place, then the particular direction and distance each finger is required to move for any of the non-guide keys are never the same. You cannot learn the keyboard if you keep your fingers wandering about above the keyboard. Note carefully, therefore, that every movement you make with each of your fingers at the keyboard, while learning, must be made from the original guide key to which that finger belongs; and, when the movement has been made, the finger must be made to return to its guide key.

Your next step is to master the keys operated by the fourth (or little) fingers. If you have made a thorough job of the preceding work, the rest of your task in keyboard learning is comparatively easy, although this

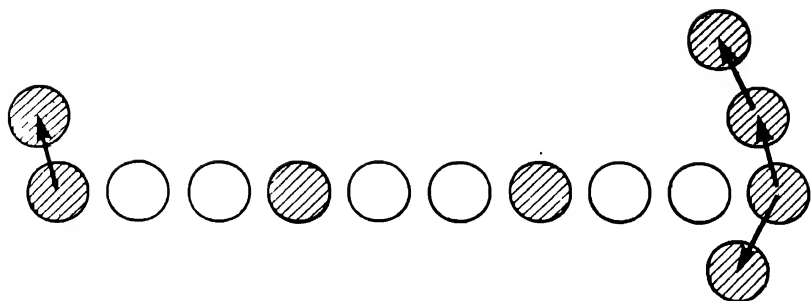


Fig. 9. *Keys operated by fourth fingers. Note that on the left hand side of the keyboard only two keys, A and Q, are operated by the fourth finger.*

does not mean that the practice can be scamped. Examine Fig. 9 above, which shows clearly which keys are operated by the fourth fingers, and then proceed to Exercise 18. This exercise should be practised in the same way as the first finger exercises. Observe that the left hand fourth finger has only one additional key to operate, namely Q. The right hand fourth finger has three additional keys to operate, but only one of these is a letter or alphabet key, namely P.

Note that the lines in the keyboard exercises throughout these lessons are all very short. The purpose of this is to simplify your task. Make sure that you understand that the lines should be repeated in your own line of typewriting. Thus, for example, line 1 of Exercise 18, although the groups of letters appear only once in the copy, would be repeated twice in your line of typewriting.

EXERCISE 18

Line 1. fa aq fa fq j; ;p j; jp
 Line 2. fa aa fa aa j; ;. j; j.
 Line 3. fa aq fa fq j; jp p- j-
 Line 4. fa fq fa fq j; jp j. j-

EXERCISE 19

Line 1. pap qua pup qu. put qua pun qu;
 Line 2. gap cap hap nap tap tup cup sup
 Line 3. pun pub pah qua pat pay pug qu.
 Line 4. ap. aq. qu. qu- pa- qu. pq. ap;

EXERCISE 20

Line 1. quart pays; quash pasty
 Line 2. aqua; apart squat spans
 Line 3. daubs frus- gaps. happy
 Line 4. laps. karp- rasps traps
 Line 5. pacts quack apply pagan
 Line 6. yarn- up-lq vp-46 fq-75

EXERCISE 21

Line 1. quaff pappy quay; japan
 Line 2. graph punch punt; chap;
 Line 3. adapt harpy frap. pact;
 Line 4. quan; carp; quran parch
 Line 5. crypt putty purl; patch
 Line 6. pang; pant; papa; squad
 Line 7. spars quads purr; parl;
 Line 8. pray; path; plant plugs

LESSON SEVEN

SECOND FINGER PRACTICE

As you proceed with this work, you will find your keyboard operation becomes easier. Your task is to make sure that your finger responses to the sight of the letters in your copy are spontaneous. That is to say, there must be no hesitation between the sight of the letter in your copy and the movement of the finger. Consider, for a moment, what happens when the order "Quick March!" is given to a company of soldiers. What would happen if half the company hesitated and stopped to wonder with which foot they must start off, and whether they should put that foot backward, forward, to the right or to the left! You can at all events, imagine what would happen to the officer in command!

The same thing applies to your fingers. Hesitation means confusion, and, in the case of typewriting, it also means errors. Go over the exercises again and again, even though you are quite sure you are able to operate them well. In no circumstances try to *remember* where the keys are. That is the old-fashioned way of learning to type. It stops the fingers from responding instantaneously to the sight of the letters in the copy. And do not operate the keyboard while watching your fingers or while looking at the keyboard illustrations in the book. That again is the old-fashioned way of learning to type. You have only to follow the instructions implicitly, and you will master the keyboard. Half-hearted practice means half-mastery of the keyboard.

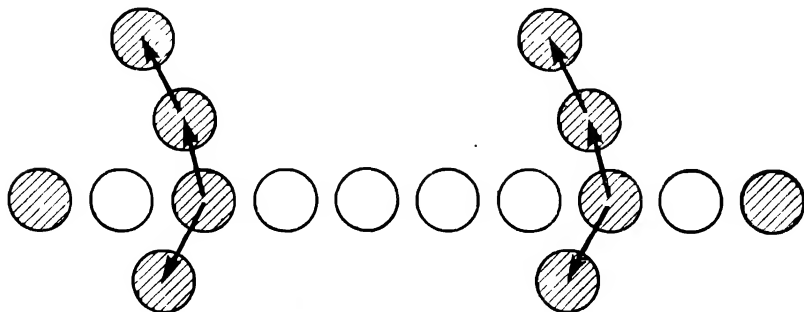


Fig. 10. Groups of keys which are operated by the second fingers.

Examine the illustration of the keys in Fig. 10 for the second fingers—the fingers next to the first fingers. Then proceed to Exercise 22 and practise it with the same dogged perseverance as you have used with the preceding exercises.

Don't forget! Each new key is to the left of the previously mastered key relating to it. In this lesson the new keys are Left *E*, *X* and *3* (operated with the *D* finger), and Right *I*, *M* and *8* (operated with the *K* finger). You should by now, be able to realize how easy this question of key location and key-finding is made by this fact

EXERCISE 22

Line 1. ad de ad ae ;k k1 ;k ;i
 Line 2. ad dx ad ax ;k km ;k ;m
 Line 3. ad ae e3 a3 ;k ;1 18 ;8
 Line 4. ad ae ax a3 ;k ;1 ;m ;8

EXERCISE 23

Line 1. ded k1k did kek ede iki idi eke
 Line 2. dek d1k k1d ked ed1 ek1 ide ike
 Line 3. dxd kmk dmd kxk xdx mkm mdm ~~xxk~~
 Line 4. d3d k8k d8d k3k 3d3 8k8 8d8 3k3

EXERCISE 24

Line 1. index skims spins slams
 Line 2. asked sacks greek hanks
 Line 3. axles sixes flex; ajax;
 Line 4. amble seams grim; humps
 Line 5. idles ended islet every
 Line 6. 3857; 3458; 8563; 4837;

EXERCISE 25

Line 1. inert evict inner evil.
 Line 2. taxes mixes pixie times
 Line 3. adieu steps drier fries
 Line 4. lira; flax; clubs vines
 Line 5. brier miles neat. civil
 Line 6. girds hires jilts kine.
 Line 7. quest quick piece peace
 Line 8. 39-83 53-38 34674 83-38

LESSON EIGHT**THIRD FINGER PRACTICE**

THIS lesson brings to you the work of the third finger of each hand—the last groups of keys to be mastered. Follow the same practice as with the other fingers, but make quite sure that you are key perfect with all the other fingers before you begin this new exercise. The fingering is, as shown in Fig. 11, Left *W*, *Z* and *z*, typed with the *S* finger. Right :

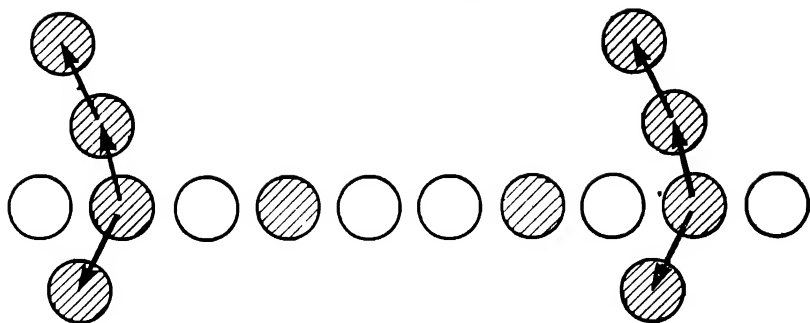


Fig. 11. Groups of keys which are operated by the third fingers.

O, (comma), and 9, typed with the *L* finger.

EXERCISE 26

Line 1. fs sw fs fw jl lo jl jo
 Line 2. fs sz fs fz jl l, jl j,
 Line 3. fs fw w2 f2 jl jo o9 j9
 Line 4. fs fw fz f2 jl jo j, j9

When ready, practise the word exercise, using the repetition method described earlier in these lessons. Note, however, that the important work lies in the two-letter groups, and that if the word practice indicates that you cannot copy accurately, it is a sign that you need more practice with the two-letter groups.

EXERCISE 27

Line 1. had the not was for two per get
 Line 2. you yes pen con pay was red tea
 Line 3. bun rev mum pie hub top lax bow
 Line 4. pun sum car cat fag guv run tax
 Line 5. yaw duo ham rap joy auk tub doz
 Line 6. 529 478 58- 75. 34, 6-2 846 369

The following exercises are provided in order to secure additional revision practice in which the whole of the keys are employed. You should practise these exercises thoroughly; note your errors, and if you find you are repeatedly making the same error, find the two-letter exercise employing those particular letters, and practise the keys concerned. Then return to the revision exercise and re-type it. For example, suppose you are uncertain as to which finger you should use for the "z" in the word *lizards*, turn to Exercise 26, and work upon it afresh.

You must not expect to find this word practice easy. Your effort must be to develop sufficient skill to be able to type the words with a continuous movement—that is, without hesitation over any of the keys—at approxi-

mately two strokes a second. This rate is the equivalent of 24 words a minute. You should not seek to type any of the exercises, while you are learning, at a faster rate.

EXERCISE 28

- Line 1. quarter weather excels, reasons
- Line 2. trapper yearned unripe, indexed
- Line 3. overall portent archive syntax;
- Line 4. dubious frigid, govern. hurdles
- Line 5. jovial. knocks, lizards zodiac.
- Line 6. xanthic covered voyages brindle
- Line 7. numbers minimum vicious 5984-37
- Line 8. acknowledgments parliamentary
- Line 9. juxtapositional disestablished;
- Line 10. meteorological; unremunerative.

EXERCISE 29

- Line 1. the and for say but was can not joy may
- Line 2. were that your play from sold name bump
- Line 3. bread plate fixes mizen gravy place
- Line 4. square prices likely subtle hereby excuse
- Line 5. certain repeats numbers vicious perfect
- Line 6. concerns restrict announce physical

LESSON NINE

CONTINUOUS COPYING PRACTICE

ASSUMING that you have been able to carry out the instructions given to you in the preceding lessons, you should now be in a position where you can find any key at will—by the simple process of placing your eight fingers on the guide keys, and allowing your fingers to respond instinctively or automatically to the sight of the letters in the exercises. In other words, you should by now have *learned the keyboard*. Your next task is to consolidate the skill you have gained, and for this purpose it is necessary for you to undergo a reasonable amount of practice upon the sentence exercises that follow. When typing these exercises, your aim must be to type a continuous line without any hesitation, or without stopping, and to keep up the same rate of operation throughout the whole line. You should not, of course, look away from your copy until you have reached the end of the line. Later on, you must not even look away from your copy when you do reach the end of the line. For the present, however, it is as well to make a habit of checking up your work at the end of each line, and to practise the words in which you make errors. Concentrate upon one sentence at a time, and repeat it over and over again, until you are able to type it correctly in the way described above. Notice that no capital letters are used in this work. You must make sure of your skill on the keyboard before learning the correct way to operate the shift key for capital letters.

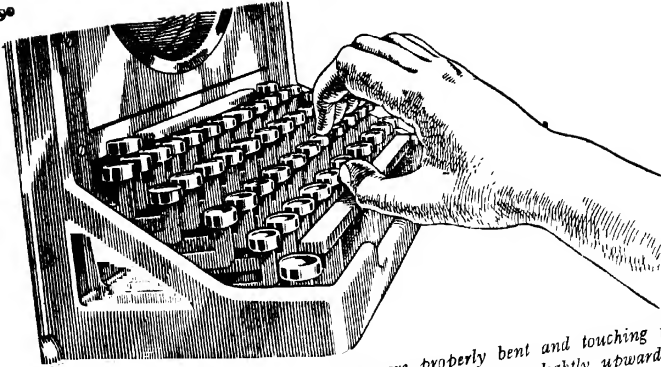


Fig. 12. *Correct position. The fingers are properly bent and touching the keys. The wrist is held straight with the arm sloping slightly upwards.*

It would be as well at this stage to make sure that you are sitting correctly at your machine. You should be sitting so that your bent fingers can reach the second row of keys (the guide key row) without having to stretch the arms forward (Fig. 12). That is to say, the arms down to the elbow should be hanging loosely and naturally at your sides: the fore-arm should be sloping gently upwards. Positions to be avoided are shown in Fig. 13.

EXERCISE 30

- Line 1. has the teacher had his holiday
- Line 2. use the chopper for the present
- Line 3. ask the butcher for the mutton.
- Line 4. see our monkeys get out quickly
- Line 5. ask the farmers for the tractor
- Line 6. mix six lizards and two bantams
- Line 7. ban all bananas but not melons.
- Line 8. are you sending all the parcels
- Line 9. pay the account and get receipt
- Line 10. you can correct all his answers

EXERCISE 31

- 1. you must produce a maximum, not a minimum.
- 2. try to find the answers to these questions.
- 3. do not forget to affix the labels outside.
- 4. pack six dozen liquor bottles for the party.
- 5. the band will play jazz and classical music.
- 6. six bantam cocks fought a terrific battle.
- 7. excuse me, sir, but you are the new minister;
- 8. he told me to practise this exercise twice.
- 9. there is a telegram for you on the hall table.
- 10. the exact time of the meeting is not yet known.

INCORRECT TYPING POSITIONS

91

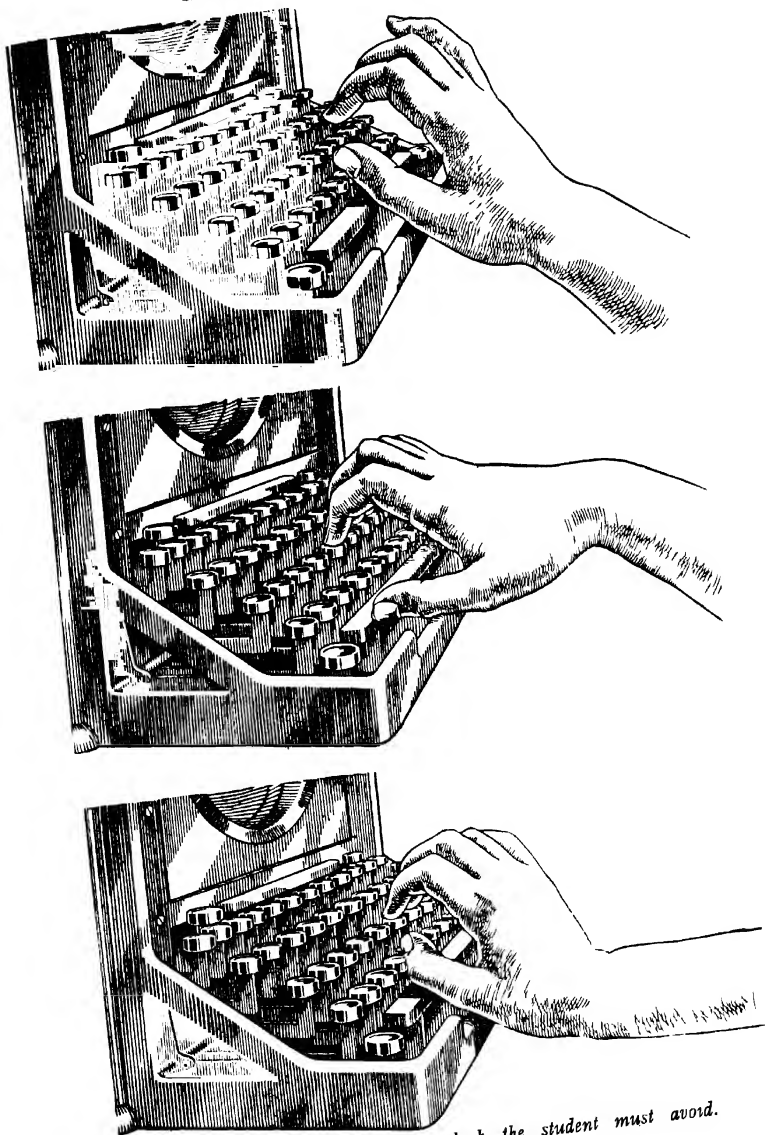


Fig. 13. Incorrect positions which the student must avoid.

TYPEWRITING

EXERCISE 32

1. say if you can read this work in one or two weeks.
2. do not try to run quite so fast or you may rue it.
3. name as many numbers as you can in nine minutes.
4. that nasty mark is the result of a fall when a baby.
5. trot right along the top road, and try out our new trap.
6. you really must not be unkind and bully that young mouse.
7. the vicar was very civil and covered up his vexed feelings.
8. tie this new tie neatly and set the pin at the right angle.
9. ask all those boys if they would care for a game of cricket.
10. six very dazed workmen jogged back late from the queer party.

EXERCISE 33

1. we have decided to open a new branch as soon as we possibly can.
2. it is particularly requested that you arrive at the house early.
3. nobody has called while you have been out, but we had a letter.
4. thorough practice is the secret of success in this kind of work.
5. there will be some kind of jollification at your week-end party.
6. acknowledge his letter and inform him that we will send the bag.
7. please supply him with a dozen gross of the same higher quality.
8. similar treatment will be given, and we assure them of delivery.
9. entertainment of this nature is considered unnecessary nowadays.
10. parliament will assemble on the date announced a day or two ago.

LESSON TEN

SHIFT KEY OPERATION

UP to the present, you have not been required in these lessons to use capital letters. You will probably know already that in order to type a capital letter, two operations are necessary. If you examine the type-blocks at the end of the type-bars you will see that one end of the type-block is a small letter and the other a capital letter. Only one end of the type-block is brought into contact with the paper at a time. When the machine is in normal position, small letters are brought into contact with the paper. To obtain a capital letter either of the two shift keys must be depressed. The shift keys are at either end of the keyboard, and are easily identified. On some machines, the depression of the shift key causes the carriage to rise; on others, it causes the whole of the type segment to drop down.

The shift key must be operated with the fourth finger of either hand—the left hand for the left shift key and the right hand for the right shift key (Fig. 14). Note very carefully that the left shift key must be used if the character key required is struck with the right hand, and vice versa. It would be as well to experiment with this operation. Suppose you wish to type a capital *F*: first, depress the right-hand shift key with the right fourth finger: hold the key down as far as it will go: then, in the normal manner, strike the *F* key with the first finger of the left hand: then release the shift key. The important point to note is that the shift key must be

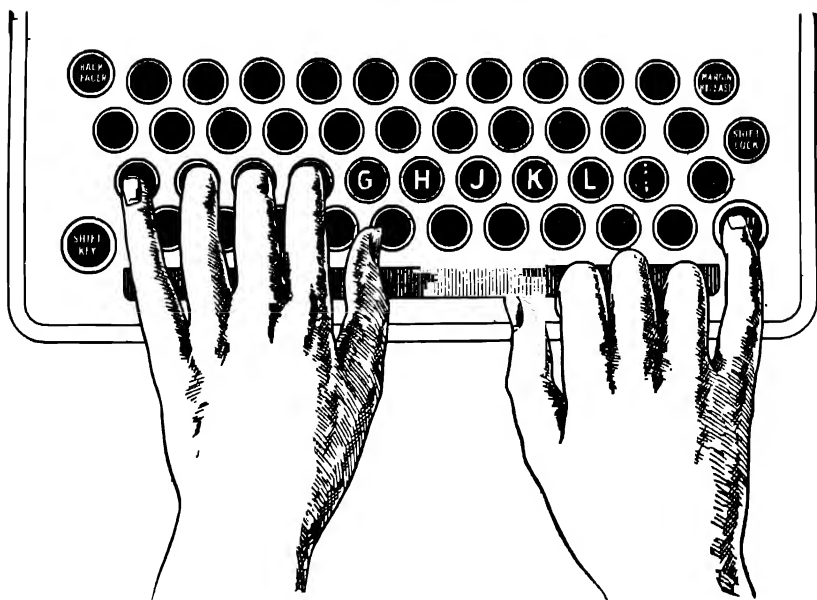


Fig. 14. *Correct position of the hand and the fingers employed during shift key action. The little fingers are supported by the weight of the hand.*

depressed before you strike the character key, and it must not be released until you have completed the striking of the character key. If you strike the character key before you have completed the depression of the shift key, or if you release the shift key before you have struck the character key, you will get an imperfect result. Note also that, whereas a character key is struck down—that is to say, the finger does not go down with the key—the shift key must be fully depressed, and held down completely with the finger until the character key has been struck.

The fourth, or little, fingers are used for the shift key operation because the shift keys are on the outside of the keyboard, and therefore the use of the little fingers prevents the hands from being taken away from the keyboard, as would be the case if, for instance, you used the first fingers. The correct method for shift key operation is to take the hand off the guide keys and drop the complete hand down to the shift key position, as shown in the illustration. You will notice that the hand is caused to retain its normal formation of the fingers. The fingers are not spread out, or closed up, or the position of the fingers otherwise disorganized by this shift key movement. The little finger holds down the shift key, supported by the weight of the hand. When the character key has been struck, the hand should be returned promptly to its guide key position. With practice, this movement becomes completely automatic. Experiment a little while watching your hands make these movements, and then practise the following exercises until you are able to use the shift key without interruption to your copying.

EXERCISE 34

Line 1. aA sS dD fF ;: lL kK jJ
 Line 2. aA ;: sS lL dD kK fF jJ
 Line 3. Day Ark Son Fag Lon Jan Kid Ada
 Line 4. Try Yan Rat Urn Quo Pam Vic Bob

EXERCISE 35

1. Ask Tom, Harry and Peter to join us at the party.
2. I trust Sybil and Mary will bring some cakes home.
3. Take the bus to High Street, Acton, and please hurry.
4. Leeds, York and Derby are all places of interest to me.
5. I have visited America, Brazil, Canary Islands, and Spain.
6. Jack called at the Rose and Crown only to see the landlord.

Examine your work and make sure that the capital letters are in alignment with the small letters, and not as in this example, which shows the result of faulty shift key operation :

The ounty of Yorkshire.

the ounty of ,orkshire.

Before practising Exercises 36, 37 and 38, study carefully the following instruction :

Exercise 36 contains short paragraphs. In typewriting, the first line of a paragraph must begin five spaces in from the normal margin point. Tap the space-bar five times to reach this point, or study the use of the tabulator in Lesson Thirteen and set a tabulator stop five spaces in from the margin.

Note that after a full-stop you must give two spaces, instead of the one space that is given after every word. Two spaces must also be given after a question mark or an exclamation mark at the end of a sentence. After a comma, semi-colon or colon, only one space is given.

You will notice that, when typing in paragraphs—or, indeed any ordinary copying—it is necessary to learn how to end the lines of your typewriting. For the present, try to respond to the sound of the warning bell by completing the word you are typing when it rings, and not starting a new word. If the word is a long word, divide the word at the first available syllable, where possible. Needless to say, you must not forget to set your margin stop at point 75 of the scale.

In Exercise 38, you will notice that some of the words are typed entirely in capital letters. For this purpose you must depress the shift lock. This key, which is above the ordinary shift key, locks the machine so that you can type entirely in capitals. The key is released by touching the ordinary shift key. When using the shift lock, it is necessary to remember to release it for the comma, unless your machine provides a comma in the capital letter position as well as in the normal position.

Note that where a hyphen occurs, as in the compound word, *shorthand-typist*, the hyphen key is struck without any space before or after it. Where

a dash occurs, the same key is used, but a space must be given before and after it.

Compare :

Shorthand-typist
Shall I go - or will you?

Exercise 39 provides you with an opportunity to practise the extra characters. These are the characters above the figure keys. Before practising them, study the list of their names and uses given in Fig. 15.

Special attention need not be given to the fraction keys, the positions of

<i>Sign</i>	<i>Name</i>	<i>Position</i>	<i>Uses</i>
"	Double quotation marks or inverted commas	Over the figure 2	To indicate a quotation or dialogue. Also used to represent " ditto " in lists.
/	Solidus or shilling sign	Over the figure 3	To separate shillings and pence in invoices and price lists.
@	At	Over the figure 4	For sloping fractions.
£	Libra, or pound sign	Over the figure 5	For the word " at " in invoices and price lists.
—	The underscore	Over the figure 6	To indicate pounds sterling.
&	The ampersand	Over the figure 7	For underlining words and for drawing continuous lines with the typewriter.
'	The apostrophe or single quotation mark	Over the figure 8	For the word " and " in firms' names, and not for any other use of " and " in typewriting.
(	Left bracket	Over the figure 9	To indicate possessive case : to indicate the omission of a letter, and as the single quotation mark.
)	Right bracket	Over the hyphen key	Bracket
%	Per cent	Over the figure 1/2	Bracket
			For " per cent " when following figures only.

Fig. 15. Table showing additional characters fitted to standard machines.

which differ on some machines. The question mark is usually placed over the comma, but here again the position varies. The exclamation mark (!) is not usually provided on the keyboard. It is made by typing the apostrophe (') and then back-spacing with the back-spacer key at the top of the keyboard, and typing the full-stop under the apostrophe. Another way to do this is to hold down the space-bar whilst typing each character in turn.

EXERCISE 36

1. I have had a good holiday this August in the Isle of Wight, and although it was not always too warm, I was able to bathe every day.
2. Many a man has succeeded in life because he has refused to rely on chance or luck. He has learned to rely upon his own efforts, and to take chance or luck when they come his way.
3. In Manchester, it is said, it is always raining; but I do not think this can be true. I am sure the sun must shine in Manchester sometimes.
- *4. Here I am, at the Poole Golf Club. I am writing this in a room they call the Nineteenth Hole. It is quite a pleasant sort of Hole, I must say. Bill tells me that it is liable to be a little wet.
5. The Association is called The Trundler Association. Entrance Fee One Shilling. Subscription: Ten Shillings a year. Apply to The Secretary, The Beeches, West Avenue, Reading.
6. Now is the winter of our discontent
Made glorious summer by this sun of York;
And all the clouds that lowered upon our house
In the deep bosom of the ocean buried.

EXERCISE 37

In this marvellous *Pickwick panorama*, the work of a young man of two-and-twenty, there are some seventy or eighty characters, round, clearly drawn, original and distinct. Of these about twenty are leading or working performers, as they may be called, who carry the piece regularly through, and appear in all the acts.

These are Mr. Pickwick, and his three friends, Tupman, Winkle, and Snodgrass; Wardle, his daughter Emily, and the Fat Boy; Jingle and Job Trotter; Ben Allen and Arabella; Bob Sawyer, Perker, with Lowten his clerk; the two Wellers, and Mary the pretty housemaid; Stiggins and Mrs. Weller.

In addition there are fifty and more minor figures, who appear little more than once, and then go their way. This amusing miscellany is all marshalled without confusion or crowding, and furnishes entertainment to the close. We have only to call up the list to marvel at the power of gay invention. We have Dr. Slammer, Dr. Payne, and the widow; the dockyard magnates; Mr. and Mrs. Pott, Slurk, the Leo Hunters, and Count Smorltork; the spinster aunt and her mother, the long gamekeeper, Magnus, Miss Witherfield, and Dowler.

Then come the characters of the Fleet: Roker, Mivins, Smangle, the Cobbler, the Butcher, Parson, etc.; the M.C. at Bath, with Lord Mutanhed; the card-playing ladies, and the immortal Bath footmen; Nupkins the Mayor, and his servant Muzzle; the constable, Grummer, Dodson and Fogg and their clerks; the attorney Pell, Justice Stareleigh, Sergeants Buzfuz

and Snubbin, with the other barristers ; the chemist-juryman ; Mrs. Cluppins and Mrs. Rogers, and old Winkle ; to say nothing of a crowd of inferior characters who appear but for a few moments, but who serve their purpose, helping on the story and amusing the reader.

EXERCISE 38

You have asked me to recommend suitable reference books for your purpose. I think you should first have a good DICTIONARY. A book of ABBREVIATIONS, CONTRACTIONS, and ABBREVIATION SIGNS is always useful to the student and the typist. Most offices possess a copy of the POST-OFFICE GUIDE.

For some purposes it is useful to have a READY RECKONER, although this depends upon the nature of your job. I cannot help thinking, also, that many shorthand-typists need to know more about the cities and towns of our own country - to say nothing about those of other countries - and, therefore, a good ATLAS would be a useful addition.

LESSON ELEVEN

ARRANGEMENT OF THE PAGE

WHEN you are able to type—that is, when you are able to operate the keyboard accurately, and can copy at a reasonable speed, you have two tasks before you. One is to increase your copying speed, and the other is to learn how to set out the various kinds of work that come within the scope of the typist. The question of increasing your speed is dealt with in Lesson 22. As you will see, it is work that can be performed, to some extent, side by side with your mastery of the other items in your typewriting training. Observe very carefully, however, that when you are typing finished work—that is, work other than practice work—you should always type at a steady pace and not at your fastest possible speed.

Before you can proceed to the study and practice of the various forms of typewriting work, you must secure a knowledge of the size of your page in relation to the typewriter. Typewriting work looks good or bad according to your method of arranging the matter on the page. For example, if a page of matter is typed in single line spacing, with practically no margins at the top and bottom and at the left and right edges of the paper, the work would look a solid and uninteresting mass, and it would also be very difficult to read. The appearance of the work is of great importance, since the eye must be aided as much as possible in reading.

This good appearance is ensured by two things : (1) Proper arrangement of the margins, and (2) Breaking the matter up into paragraphs and giving the correct spacing between the paragraphs.

In order to master this part of the work you must know the sizes of the standard papers generally used in typewriting work (Figs. 16 and 17).

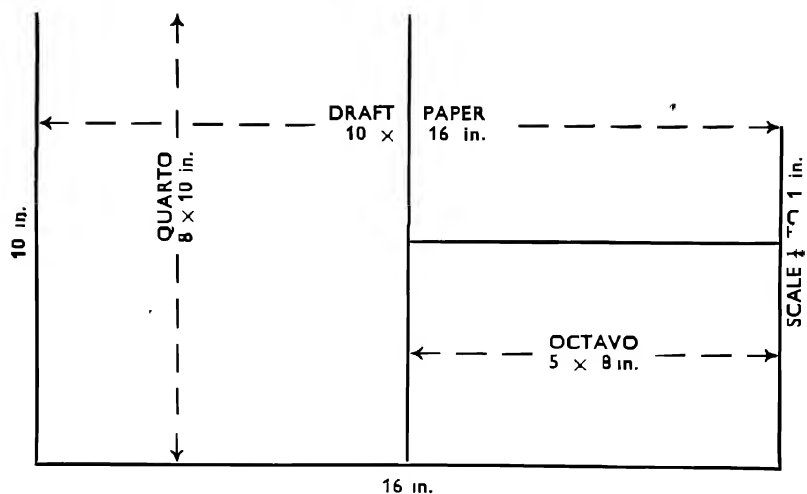


Fig. 16. Diagram showing the sizes of quarto, draft and octavo paper.

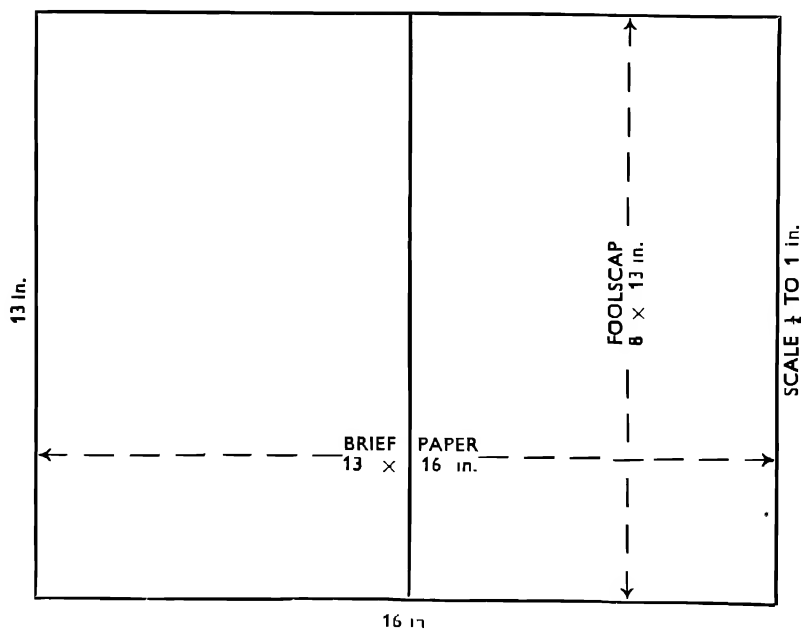


Fig. 17. Sizes and relative proportions of foolscap and brief paper.

Standard sizes of typewriting papers and their uses are as follows :

Octavo paper	5 in. x 8 in.	Used for memos, invoices, statements and, in some offices, short letters.
Quarto paper	8 in. x 10 in.	Used for letters of all lengths, and for general typewriting work.
Foolscap paper	8 in. x 13 in.	Used for various purposes, including reports, Minutes and general matter.

There are two other sizes of papers in more or less common use, particularly in law offices and in estate agents' offices. They are :

Draft paper	.. .. 10 in. x 16 in.	This is double the size of quarto paper, and is used mainly for draft copies of leases and other legal documents.
Brief paper	13 in. x 16 in.	This is double the size of foolscap paper, and is used mainly for the final copies of legal documents.

You will come across variations of these sizes, of course, and it is always well to know the actual size of the paper you are using. For your present purpose, however, the standard sizes given above should be memorized.

As mentioned elsewhere typewriter type is also made to standard sizes. The most general sizes are pica type, measuring 10 characters to the inch, and elite type, measuring 12 characters to the inch. The size in principal use is pica type. Here are illustrations (actual size) of each of these types.

Pica Typewriter	Elite Typewriter Type
Type 1234567890	1234567890

Both pica type and elite type are suitable for correspondence. There is a tendency in some offices towards elite type for correspondence, especially in semi-personal correspondence. For private correspondence, elite type is very suitable. You should make sure that you know the size of the type on the machine you are using. This can be discovered by typing 10 characters. Take a ruler and measure the length of the space occupied. If the 10 characters occupy one inch, obviously your type is pica type. For the purposes of this instruction, it is assumed that you are using pica type. Study the following facts carefully. If there are 10 characters to the inch, then your paper measurements can be given in typewriter terms, thus :

Octavo paper measures 50 character spaces across.

Quarto paper measures 80 character spaces across.

Foolscap paper measures 80 character spaces across.

Modern typewriters are also standardized in regard to the depth of space occupied by a line of typewriting. There is one-sixth of an inch between the bottom of one line and the bottom of the next line. In other words, there are six single line spaces to the inch. Thus :

Octavo paper measures 48 single line spaces from the top edge to the bottom edge.

Quarto paper measures 60 single line spaces.

Foolscap paper measures 78 single line spaces.

The sizes of these three papers can therefore be expressed in typewriter measurements, instead of in inches, and you should make a point of memorizing these figures completely :

Octavo 50 character spaces by 48 single line spaces.

Quarto 80 character spaces by 60 single line spaces.

Foolscap . . . 80 character spaces by 78 single line spaces.

This knowledge is extremely valuable to you when considering the arrangement of your page, particularly in regard to matter that requires careful calculation before typing it, in order to ensure that it is properly placed on the page.

In ordinary typewriting work, such as author's manuscript, or any general matter, it is customary to use double line spacing, with an inch margin on the left and a half inch margin on the right. The top margin should be identical with the left-hand margin; and the bottom margin should be identical with the right-hand margin.

There is no fixed rule about margins, except this—the right-hand margin must not be allowed to appear wider than the left-hand margin, and the top margin must not be allowed to appear narrower than the bottom margin.

For general typewriting work, the following points should be observed :

1. Use double line spacing, with margins of 10 (left) and 75 (right).
2. Start one inch from the top edge of the paper. Where a first page commences with a heading, start one inch and a half from the top.
3. Do not give any additional line spacing between the paragraphs when using double line spacing, but turn the paper up three single lines between a heading and the first line of the matter.
4. Do not allow any line to project beyond the fixed margin point 75 of the scale.
5. Do not type down to the bottom edge of the paper. Allow at least a half-inch margin at the bottom.
6. When using single line spacing, follow the above rules with the exception of that relating to spacing between paragraphs. With single line spacing, the paper must be turned up twice between the paragraphs : otherwise, the work will appear in a solid mass.

If you follow these rules you will automatically secure a neat appearance to your page, and every page will be uniform. In order to make sure that your margins are fixed in the way you require, and that your work will appear correctly placed on the paper, study again the instructions given in Lesson Two relating to the insertion of paper into the typewriter and the fixing of the margin stops.

When typing the following exercises, make sure that you carry out the recommended instruction which has already been given to you.

EXERCISE 39

- Line 1. "Yes," he said, "I am quite certain of all my facts."
Line 2. I bought a copy of the "Student" this morning.
Line 3. 6 dozen cups @ 8/6 a dozen. 10 mugs @ 1/6.
Line 4. The fraction was, he decided, 11/16 or 13/15.
Line 5. I enclose a cheque for £5 16s. 9d.
Line 6. You certainly must pay a visit to the new show-room.
Line 7. Messrs. J. B. Jones & Co., Ltd. Smith & Lee, Ltd.
Line 8. The word you should have used is 'lively' — not 'lovely'.
Line 9. Please send me two dozen bottles (superior quality).
Line 10. How are you? Where have you been all this time?
Line 11. It is outrageous! How dare you speak to me in that way!
Line 12. He quoted a reasonable price, less 2½% discount.

EXERCISE 40

There is plenty of time for the completion of the work you have in hand. I would advise you, therefore, to make a careful plan, so that you can see clearly exactly what you have to do. Then, by arranging to perform a certain amount each day, you will ensure that each separate task is well and accurately done.

EXERCISE 41

I sincerely hope that you will succeed in your attempt to master a foreign language. This is a task that requires determination and patience. Many people have started to learn a foreign language, but have been defeated by the apparent enormity of the task. They approach the task in the wrong manner. They regard themselves as seeking to express their own language in some other language. Modern methods of learning will enable you to avoid this handicap.

EXERCISE 42

In the well-organized office, you will get as good an example of real team-work as any. If the executives and staff of a business firm were not pulling together, and all working for the same end, it would be impossible to make the business a successful enterprise. Each individual in the firm has his job to do, and that job is an essential part of the whole. The successful business worker is he who sees the importance of his own job, and finds out how best to do it. He does more than that, however. He uses his powers of observation and his thought, so that he can be ready to take over the responsibilities of a higher position.

TYPEWRITING

EXERCISE 43

The standard typewriter keyboard does not provide a key for the figure 'one' or for the cipher (o). The figure 'one' is typed by using the key for the letter l (el), and the cipher is typed by using the capital letter O. Other characters that you may require, but which are not provided on the typewriter keyboard, are the asterisk and the dagger. These are reference marks, used mainly in literary or technical work. The asterisk is made by typing a small x, back-spacing, and typing the hyphen over the x. The dagger is made by typing the capital I, back-spacing, and, after turning the paper up a fraction of a line with the aid of the interliner, typing the hyphen key so that it appears just under the top arm of the I. Characters of this nature are known as Combination Characters. If you had frequent occasion to use signs of this nature, special type could be fitted to your machine by substituting them for some of the fraction keys.

LESSON TWELVE

CENTRING OF HEADINGS

IF there is a heading to the matter you are typing, it is necessary to place the words in the exact centre of the line of typewriting. Note those words "centre of the line of typewriting". This is not the centre of the paper, unless you had margins of equal width. For example, if you are using quarto or foolscap paper, the measurements of which were given in the last lesson, with a left-hand margin of 10 spaces and a right-hand margin of 5 spaces, the actual writing line is 65 spaces, as shown in Fig. 18.

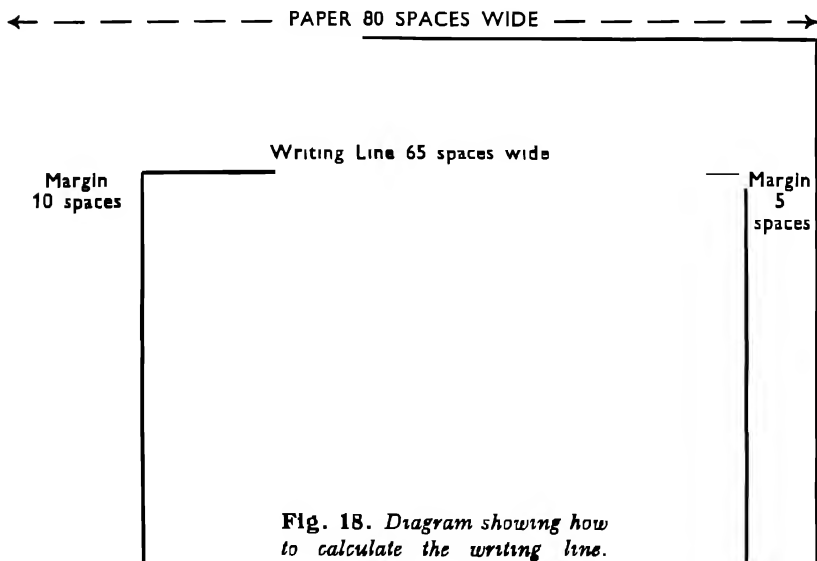


Fig. 18. Diagram showing how to calculate the writing line.

Suppose you were going to type matter containing the following heading :

TOTAL CONSUMPTION OF FOOD

To find the starting point for this heading, proceed as follows :

1. Count the number of spaces occupied by the heading = 25.
2. Deduct 25 from the number of spaces in the writing line : $65 - 25 = 40$.
3. Divide 40 by 2 = 20.
4. Add the number of spaces in the left-hand margin : 20 plus 10 = 30.

Point 30 of the scale is the position at which to commence the heading. If you examine this carefully you will see that the calculations have ensured that, starting from point 10 of the scale, there are 20 spaces on one side of the heading, and 20 spaces on the other side of the heading ; and, with the 25 spaces occupied by the heading, the total of 65 spaces is properly made up. Your heading may not always be an odd number, of course. This difficulty can be overcome by giving an additional space in the left-hand margin, or by allowing the heading to be one space out of the centre. Thus, a 26 space heading should be regarded as a 25 space heading, for example.

Note that headings should always be typed in capital letters. This gives distinction to the heading. Sub-headings or secondary headings can be typed in capitals or small letters. Headings should be underlined, and care should be taken to omit all full-stops at the end of headings, except, of course, where a full-stop follows an abbreviation. Turn the paper up three times between the heading and the commencement of the work, if you are typing in double or single-line spacing. Between a heading and a sub-heading the paper should be turned up twice. It should be noted, in this connexion, that when the paper is turned up one single line space, there is no line-space between the lines : when the paper is turned up two single line spaces, this provides one single line space between the lines : and when the paper is turned up three times, two single line spaces are provided between the lines.

EXERCISE 44

Calculate and type, in the central position, the following headings.

- (a) With margins set at 10 and 75

PRINCIPAL CITIES IN ENGLAND
HOW TO FILE LETTERS AND PAPERS
CALENDARS AND DIARIES
LET THE PEOPLE SING

- (b) With margins set at 15 and 70

BOOKS OF ACCOUNT
MODERN TYPEWRITERS
OFFICE EQUIPMENT, ETC.
THE COMPANY DIRECTORS

- (c) With margins set at 10 and 70

HOUSEHOLD MANAGEMENT
STANDARD FRENCH DICTIONARY
LITERARY CELEBRITIES OF THE PAST
STARS OF THE UNIVERSE

TYPEWRITING

EXERCISE 45

SIR ISAAC NEWTON

According to his own confession he was far from industrious, and stood very low in his class. An unprovoked attack from the boy next above him led to a fight, in which Newton's pluck gave him the victory. This success seems to have led him to greater exertions in school, and after some time he rose to be head boy of the school. He cared but little for the ordinary amusements of his schoolfellows, but he displayed very early a taste and an aptitude for mechanical contrivances. He made windmills, water-clocks, kites, and dials, and he is said to have invented a four-wheeled carriage, which was to be moved by the rider.

In 1656 Mr. Smith died, and Newton's mother came back with her three children to Woolsthorpe. Newton was then in his fifteenth year, and, as his mother in all probability intended him to be a farmer, he was taken away from school. He was frequently sent on market days to Grantham with an old and trusty servant, who made all the purchases, while Newton spent his time among the books in Mr. Clark's house.

EXERCISE 46

THE FOX AND THE GOAT

A Fox having fallen into a deep well, was detained a prisoner there, as he could find no means of escape. A Goat, overcome with thirst, came to the same well, and, seeing the Fox, inquired if the water was good. The Fox, concealing his sad plight under a merry guise, indulged in a lavish praise of the water, saying it was beyond measure excellent, and encouraged him to descend. The Goat, mindful only of his thirst, thoughtlessly jumped down, when just as he quenched his thirst, the Fox informed him of the difficulty they were both in, and suggested a scheme for their common escape. "If," said he, "you will place your forefeet upon the wall, and bend your head, I will run up your back and escape, and will help you out afterwards." On the Goat readily assenting to this second proposal, the Fox leapt upon his back, and steadying himself with the Goat's horns, reached in safety the mouth of the well, when he immediately made off as fast as he could. The Goat upbraided him with the breach of his bargain, when he turned round and cried. "You foolish old fellow! If you had as many brains in your head as you have hairs in your beard, you would never have gone down before you had inspected the way up, nor have exposed yourself to dangers from which you had no means of escape!

"Look before you leap."

EXERCISE 47

CHAPTER I

On the library wall of one of the most famous writers of America, there hang two crossed swords, which his relatives wore in the great War of Independence. The one sword was gallantly drawn in the service of the King, the other was the weapon of a brave and honoured Republican soldier.

The possessor of the harmless trophy has earned for himself a name alike honoured in his ancestors' country and his own, where genius such as his has always a peaceful welcome.

The ensuing history reminds me of yonder swords in the historian's library at Boston. In the Revolutionary War the subjects of this story, natives of America, and children of the old Dominion, found themselves engaged on different sides in the quarrel, coming together peaceably at its conclusion, as brethren should, their love never having materially diminished, however angrily the contest divided them. The Colonel in scarlet and the General in blue and buff, hang side by side in the wainscoted parlour of the Warrington's, in England, where a descendant of one of the brothers has shown their portraits to me, with many of the letters which they wrote, and the books and papers which belonged to them. In the Warrington family, and to distinguish them from other personages of that respectable race, these effigies have always gone by the name of "The Virginians," by which name their memoirs are christened.

EXERCISE 48

SUCCESS IN COMMERCE

If we were to consult the annals of commercial life, says a good authority, we should find that, in most instances, the men who have been distinguished for success in business are of the same stamp as those who have been eminent in the walks of literature and science. They have been characterized by self-denying habits, by simple tastes, and by unpretending manners; while the bold, the vain, the presumptuous, and the reckless, have done immense mischief to themselves and others in the department of trade, dissevering the bonds of confidence and good feeling, and often creating havoc and ruin around them. The same principles and motives of action prevail in the good, the wise, and the prudent among all sorts of men.

LESSON THIRTEEN

COLUMN WORK

By now, you will have had occasion to use most of the devices provided on the typewriter, with the exception of the tabulator. This is a device that enables the carriage to be directed to any required point of the scale without tapping the space bar or moving the carriage by hand. Type-writing work that consists of matter arranged in column form is known as tabulating. The tabulator consists of a series of stops which can be set for any required point of the scale. For example, if you had to type a page of matter of the nature of the following:

Column 1	Column 2	Column 3	Column 4
Cambridge	55	33	22
Eastbourne	59	27	1
Isle of Wight	22	13	11

you would not type column 1 first, then column 2, then column 3 and then column 4. You would set the left-hand margin stop at the correct point for column 1, and you would set tabulator stops for the commencing points of columns 2, 3 and 4, and type right across the page. At the end of each item in a column you would depress the tabulator key, which would cause the carriage to move of its own accord to the commencing point of the next column.

The tabulating mechanism of typewriters differs according to the make of machine. Generally speaking, however, there are two kinds in use: one in which the tabulator stops must be inserted by hand, and the other in which the tabulator stops are set automatically. In both cases, the mechanism consists of a tabulator stop rack, which you will find at the back of your machine. If the stops are set by hand, all you have to do is to pull out the stops and place them at the points where you require the columns to begin. If the stops are set automatically, you must first clear the tabulator stop rack by depressing a key provided for that purpose, and then set the stops by the tabulator stop setting key. The method of clearing and setting the stops differs also according to the make of machine. On some machines, such as the Underwood and the Royal, the setting and clearing stops are above the keyboard. On others, the setting stop is at the side of the keyboard or on the frame. On others, the clearing and setting stop is the same, and is found at the back of the carriage. It will be necessary for you to examine your machine, to discover the method used, or to study the instruction book relating to your machine referred to earlier in these lessons.

When typing matter in columns, or in tabular form, it is necessary to calculate correctly the positions of the columns; otherwise you will not succeed in arranging the matter satisfactorily on the page. The best way to understand this part of your instruction is to follow carefully the following example. This will enable you not only to master the method of calculation, but also to learn how to use the tabulator mechanism.

We will suppose that you are required to type the list given in Exercise 49, comprising four columns of names of places. In work of this kind it is usual to have equal margins on the left and right of the page. The first essential is to know how many lines the matter will occupy. This enables you to decide whether you should use quarto or foolscap paper, and whether the matter must be typed in single or double line spacing, in order to accommodate it on one page. In this instance there are only 20 lines, and obviously the matter can be accommodated on quarto paper in double line spacing. With the heading, and the two spaces between the heading and the first line, and the one space between each line, the total number of lines amounts to 42. This number must be taken from 60 (the total number of single lines on a quarto page), leaving a balance of 18. If the matter were to be placed exactly at centre, this would result in 9 spaces being given at the top and 9 at the bottom. It is preferable, however, to have less space at the top than at the bottom: therefore, take, say, 2 spaces away from the 9 at the top, and add these to the 9 at the bottom. This provides for 7 line spaces at the top and 11 line spaces at the bottom.

This information enables you to type in the heading (which must be centred with the left and right edges of the paper) on a line which will ensure

the correct placing of the whole table. Therefore, before proceeding further, you can insert the sheet of paper. In doing so, make sure that the left edge corresponds with the "o" of the scale (as previously instructed); then adjust the top edge with the top of the line gauge (the commencing point for all vertical calculations) and turn up the paper 7 single lines. Then type in the heading, after finding the commencing point of the scale, as instructed in the previous lesson. After typing in the heading, turn the paper up three times, as arranged for in the original calculations, and then proceed as instructed in the next paragraph.

The next necessity is to find the commencing points for each column. In a simple case of this kind, all that is necessary is to find the longest item in the whole piece of matter, and arrange for each column to be given the same width as this longest item. In addition, two spaces (at least) should be allowed between each column, to provide a reasonable clearance. In more complicated matter it would be necessary to find the longest item in each column, and to arrange the column positions accordingly. In this instance, the longest item is obviously "Stoke-on-Trent," which occupies a total of 14 spaces. Multiply 14 by 4 = 56: add the spaces between the columns, namely $2 \times 3 = 6$, making a total of 62 spaces to be occupied across the page. In order to find the starting point for the first column (which is equivalent to saying, in order to find the margin widths), deduct 62 from 80 = 18 and divide by 2 = 9. This 9 is the correct point for column 1, and the left-hand margin stop should be fixed at this point. Now make a rough sketch of the columns as in Fig. 19, and mark in the positions for the left-hand margin stop and the tabulator stops, as indicated. The

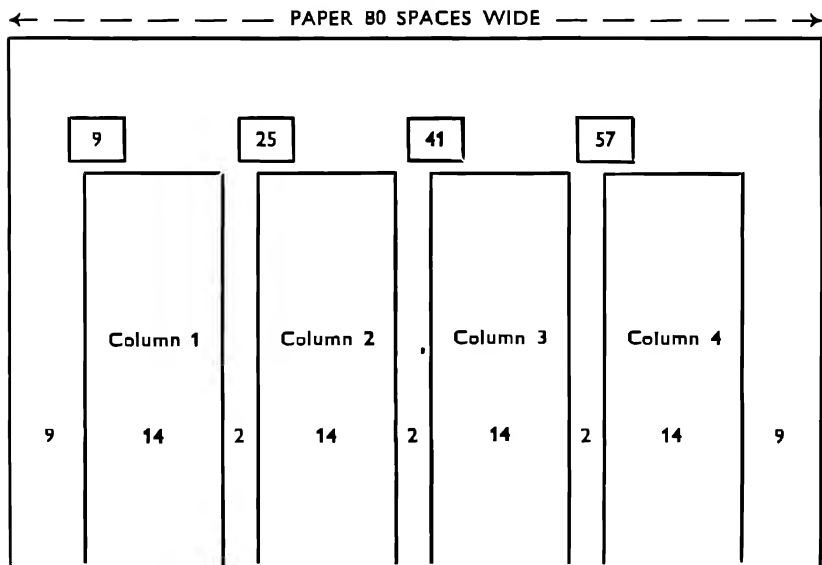


Fig. 19. Plan to be adopted when making a rough sketch for column work.

TYPEWRITING

EXERCISE 49

LARGEST TOWNS IN ENGLAND

London	Bolton	Ealing	Smethwick
Birmingham	Southampton	Bournemouth	West Bromwich
Liverpool	Coventry	Hendon	Oxford
Manchester	Tottenham	Huddersfield	Warrington
Sheffield	Birkenhead	South Shields	Southport
Leeds	Brighton	St. Helens	Edmonton
Bristol	East Ham	Walsall	Bootle
Hull	Derby	Blackpool	Heston
Bradford	Oldham	Burnley	Darlington
West Ham	Middlesbrough	Halifax	Barnsley
Newcastle	Wolverhampton	Wallasey	Acton
Stoke-on-Trent	Walthamstow	Reading	Rotherham
Nottingham	Ilford	Hornsey	Bath
Portsmouth	Leyton	Grimsby	Luton
Leicester	Norwich	Northampton	W. Hartlepool
Croydon	Stockport	Rochdale	Enfield
Salford	Blackburn	Dagenham	Stockton
Plymouth	Gateshead	Ipswich	Cambridge
Sunderland	Southend	Wigan	Barrow
Willesden	Preston	York	Lincoln

EXERCISE 50

HIGH WATER TIMES

Aberdeen	Leith	10	12	9
Aberdovey	Liverpool	9	14	10
Aberystwyth	Liverpool	8	14	10
Air Point	Liverpool	12	25	19
Aldeburgh	London	8	8	6
Alderney	London	4	20	15
Alloa	Leith	—	17	15
Amlwch	Liverpool	11	20	15
Antwerp	London	1	16	14
Appledore	Bristol	11	23	16
Arisaig	Greenock	6	13	10
Arbroath	Leith	11	14	11
Ardishaig	Greenock	12	9	8
Ardrossan	Greenock	11	10	8
Arundel	London	10	10	7
Ayr	Greenock	11	10	8
Ayre Pt.	Liverpool	12	20	16
Ballycottin	Bristol	10	12	10
Banff	Leith	10	10	8
Bantry Harbour	Liverpool	5	12	9
Bardsey Island	Liverpool	8	13	10
Barmouth	Liverpool	8	15	11
Barnstaple	Bristol	11	11	5

starting point for column 1 is already found. To find the column position for column 2, add 9 plus 14 plus 2 = 25. Column 3 will start at 25 plus 14 plus 2 = 41. Column 4 will start at 41 plus 14 plus 2 = 57—leaving the 9 space right-hand margin, exactly as on the left. (57 plus 14 = 71).

Now fix the tabulator stops at points 25, 41 and 57, and you are ready to start to type the table. Now that the machine is correctly fixed, the typing of the table presents no different problem from that of straightforward copying, other than the fact that at the end of each item, the tabulator key must be depressed in order to reach the next column. When using the tabulator key you must make certain that you keep the key depressed until the carriage comes to a standstill: otherwise the carriage will stop before it reaches the required point. Some typewriters are provided with a carriage governor or brake, so that the further down you depress the tabulator key, the slower will the carriage travel. This is an important matter with heavy carriages. It would not affect a task of the nature we are discussing in this lesson.

You will have no difficulty in making up similar examples to Exercise 49 in order to practise the method of calculation described above.

In the case of Exercise 50, however, it will be necessary for you to note down the exact widths of each column, instead of equalizing the columns as above. Try to plan out this task, using your own judgment in regard to the adjustment of the spaces, and so on.

LESSON FOURTEEN

HOW TO SET OUT BUSINESS LETTERS

THE ordinary business letter is typed in a more or less standard form in most business offices. All letters are made up of the following items, or parts:

1. The printed note-heading;
2. The date on which the letter is written;
3. The name and address of the correspondent to whom the letter is written (the "addressee");
4. The salutation—i.e. "Dear Sir," or a similar form of approach;
5. The body of the letter—i.e. the actual message the letter is conveying;
6. The subscription or complimentary close—i.e. "Yours faithfully," or a similar form of closing the letter;
7. Where required, the description of the signator—i.e. the person who signs the letter—such as Managing Director, Manager or Secretary.

The parts of the letter are placed in a certain definite order on the page. If you examine Figs. 20 and 21, you will see at a glance the relationship of each part of the letter to the other, and the respective positions of these parts.

If you examine the reproduction of the typed letter on page 111, you will see that the matter on the page is neither spread untidily over the page nor cramped up in a small part of the page. One of the main differences between a well-typed and a badly-typed letter is in the treatment of the margins and of the spacing between the different parts of the letter and the paragraphs. The right kind of treatment is ensured by following certain carefully planned

THE MAIN MANUFACTURING & SUPPLY Co., Ltd.

DIRECTORS:
W. H. Jones
B. A. Smith

Lansdowne Works,
Mill Lane,
Liverpool, 3.

16th September, 19--.

The Home Electric Co., Ltd.,
16 High Street,
York.

Dear Sirs,

We thank you for your letter of yesterday's date, and we appreciate your reference to our completion of your recent contract.

We note with pleasure that you are now contemplating the erection of a second factory in the west of England, and we hope that it will be possible for us to submit a satisfactory specification and estimate.

At the present moment, however, there are many difficulties in the way of carrying out your special requirements, particularly in regard to time, and we could not guarantee the completion of the work by the end of the year. It must be understood, therefore, that our discussion of this project, and our subsequent estimate, must be subject to the condition that we should require a period of six months for the completion of the contract.

Meanwhile we are proceeding with the preparation of the specification and estimate.

Yours faithfully,
THE MAIN MANUFACTURING & SUPPLY CO., LTD.

Managing Director.

Fig. 21. *Specimen of a typewritten letter which has been set out in conformity with the example of a layout shown in Fig. 20 on opposite page.*

irrespective of the length of the letter, and to adjust the left-hand margin according to the size of the letter. Thus a long letter, occupying a whole page, would be given a left-hand margin of 10 spaces, whereas a short letter of, say, half a dozen lines, would be given a left-hand margin of 20 spaces. The right-hand margin can always be set at 75—that is to say, a uniform right-hand margin of half an inch can be allowed, irrespective of the length

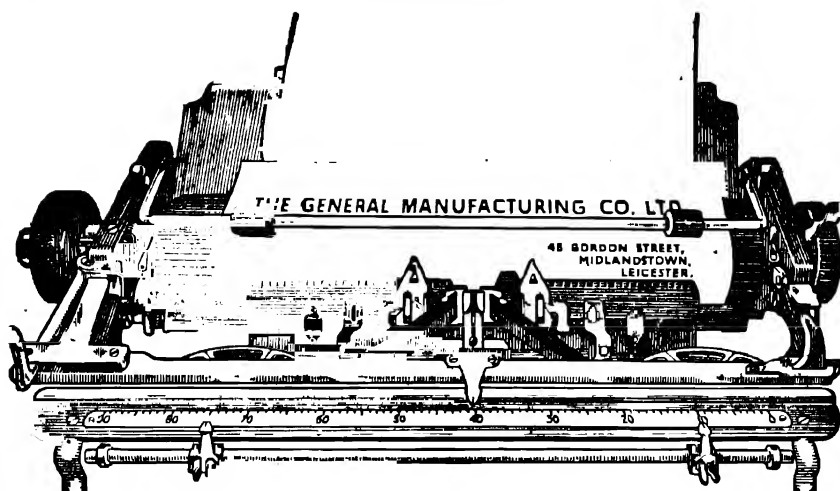


Fig. 22. *Before the date is added the position of the letter heading should be as shown. The letter should then be turned up so as to leave two spaces between the last line of the printed address and the date of the letter.*

of the letter. Note very carefully, however, that if any of the lines extend beyond the fixed margin point, the appearance of the letter is destroyed. In no circumstances, type right out to the right edge of the paper.

2. Type the date on a line found by turning up the paper three times after the last line of the printed address. The date should never be cramped up against the address (Fig. 22).
3. Commence the date at a point that will ensure its ending at a point flush with the approximate point at which the lines of the body of the letter will end.

If a fixed margin point of 75 is used, it is a simple matter to find the correct starting point for the date, by counting the number of spaces occupied by the date. Another way to do this is to place the carriage at point 75 of the scale and depress the back-spacing key for each item or space in the date. Note that there is only one correct way to type the date in a business letter, namely in the order of day, month and year, thus: 25th December, 194-. Note that no punctuation mark must be given after the "th" of 25th, or after similar ordinal numbers, but that a comma must be given after the month.

4. Turn up the paper three times again before typing the name of the correspondent. The name must start at the same margin point as the commencing point of the lines in the body of the letter.
5. Type the name and address of the correspondent in single line spacing, and try to accommodate the name and address in three (not more) single-spaced lines. This can usually be done by putting two or more items on one line, such as the names of the town and county, etc.

Two examples of three line addresses are given below as specimens :

Edwin J. Edwin, Esq.,
14 Berkeley Street,

Aylesbury, Bucks.

Leslie L. Baker, Esq., O.B.E., M.A.,
Messrs. Baker, Waite & Harbrough, Ltd.,
16 East Street, Chiswick, London, W.

Note that in the case of an address comprising short lines, the second and third lines are each indented five spaces, whereas in the case of an address comprising long lines, all three lines commence at the same point, identical with the left-hand margin.

6. Turn up the paper three times between the last line of the address and the salutation.

It should be noted that the space between the printed address and the date, between the date and the name of the correspondent, and between the last line of the address of the correspondent and the salutation is uniform. This is one of the points that add to the appearance of the typed letter, although the method is not always observed.

7. As mentioned above, fix the right-hand margin permanently at a point that gives your letters a half-inch clear right-hand margin, but adjust the left-hand margin at points 10, 15 or 20 of the scale, according to the length of the letter.

Note that if a short letter is typed with narrow margins, the result is that the whole of the letter is cramped into a small space at the top of the page. This is not good typewriting.

8. Start the complimentary close (if it consists of one line, such as "Yours faithfully") at a point approximately the centre of the writing line—not the centre of the paper.
9. Where the description of the signator is added, start this at a point that will ensure its ending flush with the date and with the margin point set for the ends of the lines in the body of the letter.

If you examine each part of the letter in the example, and see how these rules have been applied in each case, you will get an exact grasp of the way in which certain "effects" are secured in the properly typed letter. You should then make an exact copy of the letter on page 111, endeavouring to secure the same line spacing throughout your own copy. This should not prove at all difficult for you if you read the above rules in conjunction with the recommended first practice work. When you have finished your typing of the letter, make a careful comparison of each detail, and, if you have made any errors in the spacing, you will be able to see clearly where you are in error. Note particularly the necessity to turn up the paper twice after the salutation and the commencement of the letter, and between the end of the letter and the complimentary close. Note also that it is the modern practice to give only five spaces for the paragraph indentation. Some typists give ten spaces, and some start the first paragraph at the point where the carriage remains after the salutation. The first method is old-fashioned. The second method is very unsatisfactory, since it necessitates adjustment to ensure that any succeeding paragraphs begin at exactly the same point.

You will realize that letters vary considerably in length, and therefore

THE MAIN MANUFACTURING & SUPPLY Co., Ltd.

DIRECTORS:

W. H. Jones

B. A. Smith

Lansdowne Works,

Mill Lane,

Liverpool, 3.

Your Ref. XY/2441.

Our Ref. C.3831.

15th September, 19--.

John R. Williams, Esq.,
136 Waterloo Mansions,
Raybury, Middlesex.

Dear Sir,

We regret very much to learn from your letter of the 13th instant that you are not satisfied with the quality of some of the cases supplied on your Order No. 363.

As we pointed out in our acknowledgment of this order, we are not in a position at the present time to guarantee the quality of certain of our products. For example, whereas in the past all our home-manufactured articles were supplied under a strict guarantee, this guarantee has operated only in regard to certain articles since the beginning of the present year.

We have gone very carefully into your complaint, and we find that most of the items to which you refer are articles that were previously supplied under this guarantee, but that are no longer subject to this condition. In respect of these cases, our production manager reports as follows:

"Owing to the shortage of certain metals, the cases to which Mr. Williams refers were not reinforced in the usual manner. At the same time, there is no reason why these cases should prove unsatisfactory for the purpose for which they were required. It is my opinion that damage must have occurred in transit, and this opinion is confirmed by the fact that Mr. Williams does not condemn the whole of this consignment. I suggest that the cases in question should be returned to our warehouse, when I should be pleased to give them my personal examination and to report upon their condition."

Fig. 23. Specimen letter necessitating the use of a continuation sheet.

you will do well to make a thorough practice of the exercises that are provided. The effect of this practice will be to make you familiar with the placing of the letters on paper. In other words, you will learn how to adjust your left-hand margin stop in order to ensure that each letter is suitably placed on the page, instead of being cramped in any way.

Normally, quarto paper is always used in business offices for general correspondence. In some offices, octavo paper is used—particularly in

John H. Williams, Esq.

- 2 -

16th September, 19--.

Perhaps you would be good enough to look into the suggestion of damage in transit, and if you consider that there is this possibility, it would be more satisfactory if we sent our production manager to inspect the cases on your premises, and, after he has made his report, we will, if necessary, take the matter up ourselves with the railway company.

Meanwhile, as requested, we have dispatched your repeat order, but it must be understood that the question of passing you a credit note for the damaged cases must be subject to our production manager's report.

Assuring you that it is our desire to meet your wishes in every possible way,

We are

Yours faithfully,

THE MAIN MANUFACTURING & SUPPLY CO., LTD.

Managing Director.

Fig. 24. Example of a continuation sheet relating to the letter in Fig. 23.

professional or semi-professional offices, such as legal offices, banks, estate agents' offices, and insurance offices. In the professional or semi-professional office, variation will be found in the position of the name and address of the correspondent. This is often placed at the foot of the first page of the letter in this kind of office. The method is adopted from the practice followed in government or official offices.

Rarely, however, in the purely commercial or trading office, is any size

other than quarto used. The letters are typed on one side of the paper only, so that if a letter runs into two or more pages, a continuation sheet must be used (Figs. 23 and 24). This continuation sheet must be headed with the name of the person to whom the letter is written (not the address), the date, and the number of the page, thus :

Edwin J. Edwin, Esq.

- 2 -

15th June, 194--.

These items should be typed on a line about an inch from the top of the paper. The name should begin at the left-hand margin—i.e. where the lines in the body of the letter begin, and the date should begin at a point that ensures its ending flush with the line ends. The same quality and, of course, the same size paper must be used for the continuation sheet, and the same margins, etc., must be used on the continuation sheet as on the first sheet. In no circumstances should a continuation sheet be typed on a separate printed note-heading. Some firms have special printed continuation sheets, although this is not essential. It does, however, reduce waste, and the possibility of using unsuitable paper for continuation sheets.

The items on the continuation sheet are necessary for the file copy of the letter. Supposing several letters were written with continuation sheets, without these facts there would be nothing to enable the second or succeeding pages of letters to be identified. It does not matter to the recipient of the letter, because, since he has received the letter, he knows it is intended for him. The courtesy title (Mr. or Esq., etc.) must always be used with the name on the continuation sheet.

Note that it is unnecessary to type the words "Continued" or "P.T.O." on page 1 of a continued letter. The letter is obviously continued, since it has not ended on page 1 and it does not bear a signature.

The name and address should be typed on the first page of the letter in the full form that it is required to be used on the envelope. This facilitates the addressing of the envelopes, and, since it is the practice to keep file copies of all letters sent out, it provides proof of the address to which the letter was sent. Sometimes reference letters or numbers (or both) are placed on letters. The position for these letters (unless the printed note-heading provides a definite place for them) is on a line with the date, and flush with the left-hand margin. You will see an example of this in Fig 23. These references may relate to the filing system in use in the office, or they may be just the initials of the person who dictated the letter and the person who typed it. If the letters refer to a filing system in use, the typist must, of course, be familiar with the system and know how to find the correct reference numbers. If the letters are simply the dictator's and typist's initials, note that it is customary to use only two initials in each case. The purpose of these initials is mainly for the carbon copy, so that, in the case of inquiry (or indeed, of error), there is immediate evidence as to who dictated the letter and who typed it. The initials are of importance in a large firm, with several departments, as they provide a clue as to the department from which the letter originated.

Care should be taken by the typist, responsible for the production of letters, in regard to enclosures. Various methods of intimating that an enclosure is to accompany the letter are in use. The most general method

is to type the abbreviation " Enc." or " Encls." at the foot of the letter, on the left.

The question of addressing envelopes for correspondence and other purposes is also of importance. Envelopes are manufactured in various sizes, and the envelope for a letter should always be selected according to the size or bulk of the contents. When addressing envelopes, use a separate line for each item of the address, as distinct from the method used in the letter itself, of accommodating the address in three lines. Use single line spacing on small envelopes (Fig. 25), and double line spacing on large envelopes. It is of no advantage to use treble line spacing on very large envelopes : the spreading of the items of the address in this way does not help the post-office sorter. Type the name of the town in capital letters on the envelope, but to type the name in this way in the letter itself is very old-fashioned. There is no point in it. Start the name and address on the envelope approximately half way down from the top edge of the envelope. This avoids the possibility of the name and address being obscured by the post-office markings.

EXERCISE 51

Type this, and the following letters, with suitable margins, according to the length of the letter, as instructed in the lesson. Remember to insert the date in each case.

Messrs. Jones & Smith, Ltd., Factory Buildings, Leeds.

Dear Sirs, We are in receipt of your letter of the 19th August, and regret very much to learn that the quality of your last order is not up to standard. We have to-day dispatched a further consignment, and we will be obliged

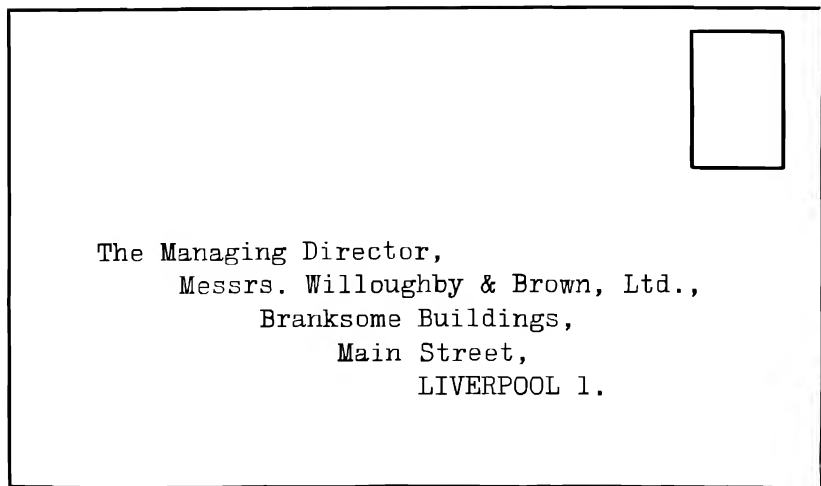


Fig. 25. Illustration of a small commercial envelope addressed in single line spacing. The actual size of this envelope is 6 in. \times 3½ in.

if you will return the unsatisfactory goods at your earliest convenience. We will then take the matter up with the manufacturers. Meanwhile we sincerely regret the inconvenience which you have been occasioned by this unfortunate delivery.

Yours faithfully.

EXERCISE 52

Messrs. Robertson & Willow, Ltd., 134 High Street, Huddersfield.

Dear Sirs, We thank you for your inquiry of yesterday's date, and we have very much pleasure in enclosing a copy of our latest catalogue. On page 46 of this catalogue you will find a full description of the special cooking range to which you refer. We can strongly recommend this range for the purpose you have in view. It is the most popular style sold by us, and it is the range generally selected by corporations requiring a range for the same purpose as that which you mention. Our terms are given on the last page of the catalogue. If desired, we shall be pleased to ask a representative to call upon you, or if you would care to visit our showrooms, we shall be happy to arrange for a demonstration. Yours faithfully.

EXERCISE 53

The Land & Water Transport Co., Ltd.,
45 Main Buildings, Wharfside, Liverpool.

Dear Sirs, At the beginning of last month we asked you to arrange for the collection and delivery of 2,000 empty barrels, consigned to Deal & Derry, Ltd., of Dublin. Up to the present we have had no acknowledgment from you of this request, nor have the empty barrels been collected. Owing to carelessness on the part of our warehouseman, the matter was overlooked, and we have only just discovered this oversight. We shall be obliged if you will make a special collection of this consignment of empties, and, meanwhile, we would like to have your explanation of your inattention to our order. Our clients in Dublin are extremely annoyed at the delay in the return of the empties, and it will help us very considerably if you are able to indicate why they have not been collected. Yours faithfully,
General Manager.

EXERCISE 54

The Misses Laughton & Lamb, 45 Main Road, Darlington.

Mesdames, In reply to your letter of the 14th August, we shall be happy to give you an estimate for the window and shop fittings to which you refer, and we will send a representative to see you at 10 a.m. on Wednesday next, as suggested, to discuss the matter fully with you. Assuring you of our very best attention to your requirements, We are, Yours faithfully.

EXERCISE 55

Sir William Brown, Ltd., Engineers, Morton Chambers, Leeds.

Dear Sirs, We note from your letter of the 14th March that there is a balance of £567 18s. 9d. due to you in respect of your account for the month ending January 31st. We regret very much to find that this account has not been cleared, and we have pleasure in enclosing our cheque for this amount. We regret that our accounts department can provide no reasonable excuse

for this oversight, and we would ask you to accept our apologies. Yours faithfully.

EXERCISE 56

Messrs. Barker & Salter, 346 Malden Road, Sunderland.

Dear Sirs, With reference to your account, to hand this morning, we regret to say that there appears to be an error of £58 19s. 8d. in the total, and we shall be obliged if you will kindly check the items and let us know if you agree with us in this matter. Your account indicates that you have received no payment from us since the end of March, and, moreover, it omits an item for goods supplied to us on April 15th. If we are correct, the amount now due to you is £155 15s. 10d., as follows :

Amount claimed by you	£214 15s. 6d.
Less payment made 5th April ..	80 10s. 6d.
	£134 5s. 0d.
Plus goods 15th April	21 10s. 10d.
	<u>£155 15s. 10d.</u>

We should be obliged if you would look into this matter, and, on receipt of your revised account, we will send you a remittance in full settlement. Yours faithfully.

EXERCISE 57

Messrs. Haber & Dasher, Ltd., 161 Green Lane, Woodford.

Dear Sirs, In reply to your inquiry, we have pleasure in quoting you as follows :

Poplin shirts, all sizes,	from	10/6 each
Long hose, best wool, (men's)	(at)	5/6 pair
" " " " (boys')	(at)	4/6 pair
Short hose, men's and boys',	from	2/11 pair
Special hand-knitted pullovers		
sleeveless		21/- each

All prices subject to 33½%, plus 2½% cash.

We shall be pleased to have your order, and we assure you of our very best attention to your requirements. Yours faithfully.

LESSON FIFTEEN

TYPING FROM MANUSCRIPT

Most typists are required to be capable of typing from manuscript. Matter prepared in manuscript form ranges from the hastily scribbled note or letter to the carefully prepared draft of a lengthy report or other document. Typing from manuscript, therefore, demands something more from the typist than the mechanical process involved in straightforward copying from printed or previously typewritten matter. The first essential is the ability to read difficult handwriting. For this purpose it is necessary

TYPEWRITING

CORRECTION SIGNS USED IN MANUSCRIPT AND IN TYPESCRIPT

<i>Sign</i>	<i>Name or Interpretation of Sign</i>	<i>Purpose and Usage</i>
<i>di</i>	delete (<i>dele</i> —blot out) to eraserstrike out.	Indicates that a word crossed out is not to be read or copied.
<i>stat</i>	stet. "Let it stand."	Applies to a word that has been crossed out, but is required to be left in. Dots are placed under the crossed out word for this purpose.
<i>h</i>	caret.	The sign is placed at the point where a letter, or a word, or a punctuation mark, has been omitted. The matter omitted is written in the margin.
<i>trd</i>	transpose.	Indicates that the order of the letters, words, etc., is to be changed as marked. There are three methods of indicating a transposition. See examples on pages 122 and 124.
<i>caps</i>	capital letters	The word or words with double or treble lines underneath must be typed all in capitals.
<i>uc</i>	upper case	Indicates that a small letter crossed through is to be typed with a capital letter. "Upper case" is a printer's term, meaning "Capital Letters."
<i>lc</i>	lower case	A capital letter crossed through is to be typed with a small letter. Compare with "Upper Case."
<i>N.P.</i>	new paragraph	A new paragraph is to be commenced with the word preceded by a square bracket.
<i>run on</i>	run on.	Indicates that a new paragraph is not required. An existing change of paragraph is cancelled by connecting the two paragraphs with a line.
<i>=</i>	close up	At the point marked with the same sign, there is unnecessary space. The letters are to be "closed up."
<i>~</i>	less space	At the point marked with the same sign, there is too much space.
<i>#</i>	insert space	A space is required at the point marked with a caret.
<i>ital</i>	italics	The matter underlined would, in printing, be set in italic type. In typewriting, the matter is again underlined, to indicate italics.
<i>o</i>	full-stop.	Insert full-stop at point indicated with a caret: or change crossed-out punctuation mark to a full-stop.
<i>,</i>	comma.	Insert or change to a comma.
<i>:</i>	colon.	Insert or change to a colon.
<i>;</i>	semicolon	Insert or change to a semicolon.
<i>"</i>	double quotation marks.	Insert double quotation marks.
<i>'</i>	single quotation mark or apostrophe.	Insert single quotation mark or apostrophe.
<i>-</i>	hyphen or dash	Insert hyphen (either as a hyphen or as a dash).
<i>—</i>	— — —	Straighten line.
<i>|||</i>	— — —	Straighten margin.

The above table includes only those signs with which the typist is concerned when dealing with typescript or manuscript. It does not include the whole range of proof-reader's signs used in printing but for all normal commercial purposes it is quite sufficient to meet the typist's day-to-day requirements.

to use a considerable amount of intelligence, and to possess a reasonable knowledge of words and spelling. Many people write by hand in a careless manner; they are usually in a hurry. Handwriting does not always keep pace with one's thoughts, and the result is sometimes an illegible and unintelligible scribble.

When faced with a difficult manuscript of this nature, therefore, the first task is to read the manuscript through completely before beginning to type it. This preliminary reading enables you to become familiar with the peculiarities of the style of handwriting used. Words that are unreadable in this first reading should be ringed in pencil. The peculiarities of the handwriting are easily discovered from the familiar words, so that by the time you have read through the whole manuscript, most of the ringed words will have become decipherable. Where they are not, a comparison should be made with the formation of the letters in the ringed words with similar formations in familiar words. This comparison, plus the typist's intelligence and knowledge of English, will generally enable the problem to be solved.

If a word is still completely unreadable, it is most unwise to guess at the solution. Guesses of this nature are usually wrong. If the writer of the manuscript is not immediately available for appeal, or if consultation with a colleague proves equally unsuccessful, estimate the number of spaces occupied by the undecipherable word and leave a blank in your typescript.

The principal point to observe in typing from manuscript is "Type sense!" The second point is "Use the dictionary!" The first of these points implies that you must endeavour to understand each phrase or sentence you type. You should be able to judge as to whether or not it is grammatically correct and if it reads sensibly. For example, supposing because of the handwriting, you found you had typed the sentence

Mr. Jones therefore decided to take out an insulating policy."

Do you know what an insulating policy is? Probably you do not. Then you reflect and you realize that the whole matter relates to the question of insurance and that the sentence should read

Mr. Jones therefore decided to take out an insurance policy."

Again you may find that the manuscript actually reads, either accidentally or as a result of alterations

"Every one of these subjects are regarded as important."

Without the employment of your own critical faculty, you could easily overlook this kind of grammatical error and you would fail to observe that the sentence should read

"Every one of these subjects is regarded as important."

Faults of this nature are common, and the trained and capable typist will ever be on the look out for them. A similar type of error, more common perhaps in speech than in writing, is

"I do not like those kind of erasers."

The word "those" is a word of plural number. "Kind" is singular number. Obviously, there must be something wrong here and the sentence should read

"I do not like that kind of eraser."

When people are drafting important material in handwriting they are often unintentionally careless in matters of this nature. They are often careless,

Cats/

Of Studies

Studies serve for pastimes, for ~~recreation~~,
 - of / ~~for~~ abilities; their chief use for pastimes
 is in sweetening learning, for ornaments in
 discourse, and for ability in judgment, for
 exp^t expert ~~men~~ can execute, but learned men are
 less / ~~more~~ fit to conserve / ~~to~~ spend too much
 time in them in school, to use them too much for
 wholly / ornament or affectation; to make judgment / by
 w / their rules is the lamp of a scholar; they
 perfect nature, save themselves perfected by
 experience; crafty men condemn them, wise men
 admire / use them, simple men ~~use~~ them, for they teach
 not their own use, but what there is a wisdom
 without them & above them won by observation
 Read not to contradict nor to believe, but to
 O / see / weigh and consider; some books are to be tasted,
 others to be swallowed, & some few are to be chewed
 & digested; that is, some are to be read only in
 parts, others to be read / curiously, & some are to
 be read wholly & diligently & attention [Reading
 maketh a full man, conference a ready, & writing
 an exact man; therefore, if a man write little, he
 had / need of a great memory; if he confers
 little, he need have much cunning to seem to
 know what he does not know
 History makes men wise, poets witty;
 the mathematics subtle, natural philosophy deep;
 moral grave, logic & rhetoric able to contend
 (James Bacon)
 of / ~~the~~ ~~confession~~ ~~of~~ ~~the~~ ~~need~~
 of a present wit, & if he read
 little.

Fig. 26A. Compare with the typed model in Fig. 26B and type an exact copy

too, with their spelling. A dictionary is essential, especially when the handwriting does not enable you to see how the intended word is spelt. Unless you are an expert speller, you have no clue to the correct spelling. If you are wise, you will cultivate the habit of consulting the dictionary whenever you are in doubt.

You will also be well advised to cultivate the habit of doubting your own

Studies serve for pastimes, for ornaments, for abilities; their onief use for pastimes is in privateness and retiring, for ornaments in discourse, and for ability in judgment; for expert men can execute, but learned men are more fit to judge and censure. To spend too much time in them is sloth; to use them too much for ornament is affectation; to make judgment wholly by their rules is the humour of a scholar; they perfect nature, and are themselves perfected by experience; crafty men contemn them, wise men use them, simple men admire them; for they teach not their own use, but that there is a wisdom without them and above them won by observation. Read not to contradict nor to believe, but to weigh and consider. Some books are to be tasted, others to be swallowed, and some few are to be chewed and digested; that is, some are to be read only in parts, others to be read but curiously, and some are to be read wholly with diligence and attention.

Reading maketh a full man, conference a ready, and writing an exact man; therefore, if a man write little, he had need of a great memory; if he confer little, he had need of a present wit; and if he read little, he need have much cunning to seem to know that he doth not know. Histories make men wise; poets witty; the mathematics subtile; natural philosophy deep; moral grave; logic and rhetoric able to contend.

(Francis Bacon)

Fig. 26B. *Typed copy of the manuscript reproduced in Fig 26A*

spelling ability For example, supposing in the manuscript the writer has spelt (wrongly) the word ' skillfull " Are you sufficiently informed to know, in the first instance, that the suffix ful requires only one l, and, if you made that correction, would you still regard the word as correctly spelt ? Perhaps you would see immediately the error in the suffix ful but would you see the other error in the word, and know, without reference, that the word is

TYPEWRITING

Education

Far more important in the literature of this subject than the treatise of Locke is the Tractate of Education by Milton, ¹the few observations," as he tells us, "which ~~fol~~wered off, and are, as it were, ²the burnishings of many studious and contemplative years spent in the search for religious and civil knowledge." This ~~Essay~~ is published by Samuel ~~Martlib~~, a great friend of Comenius, and refers probably to a project of establishing a university in London. "I will point out ~~to you~~," Milton says, "the right path of a virtuous and noble education, ³laborious, indeed, at first ascent, but else so smooth and green and full of goodly prospects ⁴on every side, that the harp of Orpheus is not more charming. This is to be done between twelve and one ⁵and twenty, in an academy containing ⁶about a hundred and ~~thirty~~ ^{handy} scholars, which ~~will~~ be at once school and university, - not ~~needing~~ a remove to any other house of scholarship except ⁷in some peculiar college of law and physics, where they mean to be practitioners." ⁸

The important truth enunciated is quite in the spirit of Comenius ~~when~~ the learning of things is to go hand in hand. The curriculum ~~is~~ very large.

Fig. 26C. Type this corrected typescript and then compare with Fig. 26D).

spelt correctly *skilful*? More difficult words, such as *mischievous*, *innuendo* and *innovation*, are not so easily spotted, unless you develop the right kind of attitude towards spelling. Would you recognize the errors if you saw these words written (as they sometimes accidentally are) "*mischievious*," "*inuendo*", and "*inovation*"? You will meet this kind of error on many occasions, so keep a sharp look-out for it.

Apart from the question of the possession of intelligence and a knowledge of English, it is advisable for the typist to become familiar with the method of correction employed by printers and other in connexion with manuscripts, draft typescripts, and printers' proofs. Instead of adding to the confusion of incorrect matter by marking alterations and additions all over the page,

EDUCATION

Far more important in the literature of this subject than the treatise of Locke is the Tractate of Education by Milton, "the few observations," as he tells us, "which flowered off, and are, as it were, the burnishings of many studious and contemplative years spent in the search for civil and religious knowledge." This essay is addressed to Samuel Hartlib, a great friend of Comenius, and probably refers to a project of establishing a university in London. "I will point you out," Milton says, "the right path of a virtuous and noble education, - laborious, indeed, at first ascent, but else so smooth and green and full of goodly prospects and melodious sounds on every side, that the harp of Orpheus is not more charming. This is to be done between twelve and one-and-twenty, in an academy containing about a hundred and thirty scholars, which shall be at once school and university, - not needing a remove to any other house of scholarship except it be in some peculiar college of law and physics, where they mean to be practitioners." The important truth enunciated is quite in the spirit of Comenius that the learning of things is to go hand in hand. The curriculum is very large.

Fig. 26D. *Typed copy of the manuscript which is reproduced in Fig. 26C.*

a system of proof correction signs is used, and these signs, together with any altered or added words, are placed in the margins. Specimens of corrected manuscript and corrected typescript are given in the illustrations accompanying this lesson.

A list of the printers' proof correction signs in most general use is given on page 120. The best way to master these signs is to observe them in actual use. Work carefully through the piece of corrected matter on page 122, and compare the corrections with the corrected copy on page 123. This practice, together with a study of the explanations of the signs in the list, will enable

Extract from *Harley Chryzoleis*
by *Chryzoleis*

Mr. Todger's *Conscience Boundary* - House was a house of the sort it is likely to be dark at any time; but the worst it was especially dark. There was an odd smell in the passage, as if the concentrated essence of all the dinners he had been cooked in the kitchen since the house was built, lodged at the top of the kitchen stairs to that time, & like the Break Fast in Don Juan, "would be driven away." In particular, there was a smell of cabbage; as if all the greens he had ever been boiled there, were overgrown, & flourished in immortal strength. The parlour was ^{unfurnished} ~~furnished~~, & communicated to strangers a vague & unattractive consciousness of not being home. The staircase was very plain & very broad, with balustrades no thick & heavy the way old time served for a bridge.

10/ In a small room on the 1st landing, stood a stiff old plant of a clock, with a preposterous count of 3 brass balls on his head, which few had ever seen - more ever looked in the face - & who seemed to continue his heavy ^{tick} ~~tick~~ for no other reason than to warn travellers of people from running into him accidentally.

11/ The most beautiful painting in the house, *Painted in Poland*, *Painted* Todger's, within the memory of man. It was all very black, begrimed & mouldy.

Fig. 26E. Type a corrected copy of the manuscript reproduced above.

you to interpret corrections of this nature and, if necessary, to employ the signs yourself. The knowledge is useful to you apart from the question of typing from matter corrected in this way, because, in the average office, printed matter is frequently employed, and if you are able to correct proofs you are of additional value to your employer or manager. Examples and exercises for practice are provided by Figs. 26A to 26I

P L A T O

Plato, the Athenian philosopher and father of idealism, was born 427 B.C., and lived to the age of eighty. His activity may be said roughly to have extended over the first half of the 4th century B.C. His father's name was Ariston, and his mother's family which claimed descent from Solon, included Critias, one of the thirty tyrants and other Athenian notables. That throughout his early manhood he was the devoted friend of Socrates, that in middle life he taught those who resorted to him in the grove named ~~of~~ Acadamus, near the Cephissus, and there founded the first great philosophical school, that with alleged interruptions he continued to preside over the Academy are matters of established fact. [It is said by Aristotle that he was at one time intimate with Cratylus the Heraclitean. Beyond this we have no ~~authentic~~ record of his outward life. That his name was at first Aristocles, and was changed to Plato because of the breadth of his shoulders or of his style or of his forehead, that he rested well, that he wrote poetry which he burnt on hearing Socrates, that he fought in three great battles, that as is told of other Greek philosophers) he travelled to Cyrene and

Fig. 26F. Type a corrected copy of the typescript reproduced above.

LESSON SIXTEEN

FORMS OF ADDRESS

CERTAIN formalities and courtesies are observed when writing and addressing letters to individuals and to firms. For example, you yourself might feel reasonably aggrieved if you received a letter addressed Elsie Blank or Robert Blank or whatever your name may be. You would

naturally expect your correspondent to extend to you the courtesy of Miss or Mr. as the case may be, or even, in the case of Robert Blank, the courtesy of Esq.

In business and professional work this question is still more important, since the relationship between a firm and its clients is a matter that affects the goodwill of the business. Moreover, it is the custom, almost throughout the world, to be courteous in our dealings with one another, and even if a letter contains a serious threat to institute court proceedings if an account is not paid forthwith, the same courtesy of address is preserved.

It is the duty of the typist to learn the rules for this purpose. These rules are quite simple. The chief difficulty the average typist has is to distinguish between occasions when Mr. should be used, and when Esq. (the recognized abbreviation for Esquire) should be used. Most firms use the form Esq. for all cases, unless the correspondent is known to be a youth, or unless the correspondent is, for example, a junior member of the staff. The best rule to follow is to use the form Esq. instead of Mr. in all cases, unless there is some reason for using Mr. Generally speaking, the employer or person responsible for the correspondence, makes his own distinctions when dictating the letters.

In the case of letters addressed to a woman, care should be taken to ascertain if the correspondent is a Mrs. or a Miss. If the correspondent has signed her name correctly she will have indicated this fact. The correct way for a woman to sign her name, by the way, is :

Married lady : Florence Smith (Mrs.).

or, if she uses her husband's initials : B. A. Smith (Mrs.).

Single lady : Florence Smith (Miss) or F. Smith (Miss).

It is incorrect to sign the name " Miss Florence Smith " as so many girls do. If the word Miss must be placed in front of the name it should be enclosed in brackets.

Care should be taken to address correspondents in the form they employ in signing their letters. For example, if a man signs his letter John Brown, he should be addressed as John Brown, and not as J. Brown. If a correspondent is known to possess degrees or distinctions, such as B.Sc. or O.B.E., those letters should be added to the courtesy title Esq. This point should be particularly observed if the correspondent uses the distinctive letters in his own letter-heading. In the case of a person employing a long string of distinctions or degrees, however, it is sufficient to use the first one or two, or the most important one or two.

Where the name of a man is followed by the word Senior or Junior, this word should precede the courtesy title Esq. Thus :

John Brown, Senior, Esq. or John Brown, Junior, Esq.

Occasionally business correspondence between business men reaches a more personal or intimate stage, and the correspondent is addressed Dear Mr. Brown, instead of Dear Sir. It is necessary for the typist to observe these occasions, so that in the event of the correct salutation not being dictated, the letter is typed correctly. In the absence of direct information, the facts can usually be ascertained by looking up previous correspondence in the files.

In the case of firm's names, there are very definite rules in existence,

more or less laid down formally, but mainly governed by general practice. Study these rules carefully.

If the name of a firm employs actual surnames, whether or not the firm is a limited liability company (that is to say, whether or not the name of the firm is followed by the word Limited), the courtesy title Messrs must be placed in front of it. This rule applies, even though it may be known that the person or persons named are no longer alive. Examples

Messrs Foster, Mills & Cooke.

Messrs J Brown, Ltd

Messrs Brown & Jones, Ltd

Messrs Clarke Bros

Messrs Clarke Bros & Co, Ltd

Messrs Brown & Co, Ltd

If the name of a firm does not employ actual surnames, the courtesy title Messrs should not be placed in front of it. Examples

The Land Air & Water Co, Ltd

The County & Rural Bank, Ltd

The Box Manufacturing Company

The Local Gas & Electricity Co, Ltd

If the name of a firm employs the name of a titled person, the word Messrs should not be used. Example

Sir William Williamson & Co Ltd

Sometimes a business is run by ladies. Here are examples of the forms of address in such cases. The salutation, when addressing firms of this kind is Mesdames, or Dear Mesdames.

The Misses E. H. & A. J. Wood.

The Misses Wood's Dressmaking Agency

You may come across a firm with a title such as John Brown & Daughters. If a firm with this title is not a limited liability company, the address should be Mr John Brown & Daughters, and the salutation Dear Sir & Mesdames. If the name is followed by Ltd the form of address is Messrs John Brown & Daughters, Ltd and the salutation Dear Sirs. Most business men, however, avoid this complication by addressing the manager or managing director, or, if it is known that the name, such as "John Brown," represents an active member of the firm he is addressed personally.

Difficulties often arise when persons of rank are to be addressed. The table given on pages 131 and 132 can be used as a reference to indicate the form of address, the salutation and the complimentary close. It is advisable never to rely upon the memory in cases of this nature. In the absence of direct instructions, look up the point in a reference book. The importance of the matter lies mainly in the natural desire of a business or professional firm to avoid giving unnecessary offence to anyone who might be liable to resent inattention to the correct form and to the equally natural desire to avoid any suggestion that the firm does not know how to observe correct procedure. In the case of a firm trying to secure the acceptance of an estimate for, say, the complete furnishing of an earl's mansion, carelessness on the part of the typist could easily influence a decision.

It is unnecessary to spend time memorizing these forms of address. The occasions when they are likely to be used are rare in the majority of offices,

and, as stated already, an authoritative reference is of more value than a possibly faulty memory.

If you are responsible for the composition of some of the correspondence in an office, make a note of the following points.

1. Do not use the old-fashioned term *Gentlemen*, in place of *Dear Sirs*.
2. Avoid equally old-fashioned phraseology, such as :

I beg to acknowledge receipt of your letter

I beg to quote

I have to acknowledge receipt of your favour (or your communication)

Your letter of the is duly to hand and I note its contents.

All the above would be better expressed by a simple acknowledgment, such as *Thank you for your letter of yesterday's date*, or, *I am in receipt of your letter*. The average firm does not wish to beg, and expressions of this nature date back to the early Victorian days. Similarly, avoid the use of the word *same*, as, for example, in *I beg to acknowledge your letter and same shall have my attention*.

3. Avoid the use of the abbreviation "*inst.*" for "*instant.*" It is better in any case to use the name of the month if the date of the acknowledged letter is any but that of the preceding day. Thus :

Thank you for your letter of yesterday's date.

Thank you for your letter of the 12th December.

4. Never use the terms "*ultimo*" and "*proximo*" in letters, nor the corresponding abbreviations "*ult.*" and "*prox.*" If you are referring to last month, name the month ; if you are referring to next month, say "*next month*" or name the month.

5. Avoid endings such as *Thanking you* (so reminiscent of a well-known comedian) or *Thanking you in anticipation*. You should not begin an ending of this kind with a present participle (i.e. a word ending in *-ing*) in any case. Substitute, for example :

I thank you for your courtesy in this matter.

6. If your employer uses the participle in this way, and does not approve of your correcting his dictation, make sure that you do not place a full-stop after the phrase. *Thanking you in anticipation*, is not a complete sentence, and therefore it should be followed by a comma, thus :

Thanking you in anticipation,

I am

Yours faithfully,

Note that the words "*I am*" or "*We are*" are essential and that these words provide the completion of the sentence : that is, they employ the essential verb.

7. Read through every letter you type before submitting it to your employer or manager for signature. The writer of these lessons received a business letter which began "*Dead Sir*". The inference that this salutation referred to a state of deadness from the neck upwards could very well have been taken by a person lacking a sense of humour, or by a person ignorant of the kinds of mistakes typists make unconsciously.

The following should be used for reference. It indicates the correct style of address for titled persons. The reference letters indicate: (a) Mode of address; (b) salutation; (c) treatment in body of letter; (d) complimentary close.

Duke.—(a) His Grace the Duke of—, (b) My Lord Duke, (c) Your Grace's— (d) I have the honour to be, My Lord Duke, Your Grace's obedient Servant,—.

Wife of Duke.—(a) Her Grace the Duchess of—, (b) Madam, (c) Your Grace's— (d) I have the honour to be, My Lady Duchess, Your Grace's obedient Servant,—.

Eldest Son of Duke.—Addressed according to his own title.

Younger Son of Duke.—(a) The Lord Charles—, (b) My Lord, (c) Your— (d) I am, My Lord, Your obedient Servant,—.

Wife of Younger Son of Duke.—(a) The Lady Charles—, (b) Madam, (c) Your— (d) I am, Madam, Your obedient Servant,—.

Daughter of Duke.—(a) The Lady Cynthia—, (b) Madam, (c) Your— (d) I am, Madam, Your obedient Servant,—.

Earl.—(a) The Earl of—, (b) My Lord, (c) Your Lordship's— (d) I am, My Lord, Your obedient Servant,—.

Wife of Earl.—(a) The Countess of—, (b) Madam, (c) Your Ladyship's— (d) I am, Madam, Your obedient Servant,—.

Eldest Son of Earl.—According to his own title.

Younger son of Earl.—(a) The Hon. Charles—, (b) Sir, (c) Your— (d) I am, Sir, Your obedient Servant,—.

Daughter of Earl.—(a) The Lady Cynthia—, (b) Madam, (c) Your— (d) I am, Madam, Your obedient Servant,—.

Baron.—(a) The Lord—, (b) My Lord, (c) Your Lordship's— (d) I am, My Lord, Your obedient Servant,—.

Wife of Baron.—(a) The Lady—, (b) Madam, (c) Your Ladyship's— (d) I am, Madam, Your obedient Servant,—.

Widow of Baron.—(a) The Dowager Lady—, (b) Madam, (c) Your Ladyship's— (d) I am, Madam, Your obedient Servant,—.

Son of Baron.—(a) The Hon. Charles—, (b) Sir, (c) Your— (d) I am, Sir, Your obedient Servant,—.

Daughter of Baron.—(a) The Hon. Cynthia—, (b) Madam, (c) Your— (d) I am, Madam, Your obedient Servant,—.

Viscount.—(a) The Viscount—, (b) My Lord, (c) Your Lordship's— (d) I am, My Lord, Your obedient Servant,—.

Wife of Viscount.—(a) The Viscountess—, (b) Madam, (c) Your Ladyship's— (d) I am, Madam, Your obedient Servant,—.

Eldest son of Viscount.—According to his own title.

Younger Son of Viscount.—(a) The Hon. Charles—, (b) Sir, (c) Your— (d) I am, Sir, Your obedient Servant,—.

Daughter of Viscount.—(a) The Hon. Cynthia—, (b) Madam, (c) Your— (d) I am, Madam, Your obedient Servant,—.

Marquess.—(a) The Marquess of—, (b) My Lord, (c) Your Lordship's— (d) I am, My Lord, Your obedient Servant,—.

Wife of Marquess.—(a) The Marchioness of—, (b) Madam, (c) Your Ladyship's— (d) I am, Madam, Your obedient Servant,—.

Eldest Son of Marquess.—According to his own title.

Younger Son of Marquess.—(a) The Lord Charles—, (b) My Lord, (c) Your— (d) I am, My Lord, Your obedient Servant,—.

Wife of Younger Son of Marquess.—(a) The Lady Charles—, (b) Madam, (c) Your— (d) I am, Madam, Your obedient Servant,—.

Daughter of Marquess.—(a) The Lady Cynthia—, (b) Madam, (c) Your— (d) I am, Madam, Your obedient Servant,—.

Baronet.—(a) Sir George—, Bt., (b) Sir, (c) Your— (d) I am, Sir, Your obedient Servant,—.

Wife of Baronet.—(a) Lady—, (b) Madam, (c) Your— (d) I am, Madam, Your obedient Servant,—.

Widow of Baronet.—(a) Dowager Lady—, (b) Madam, (c) Your— (d) I am, Madam, Your obedient Servant,—.

Knight.—(a) Sir William—, (b) Sir, (c) Your— (d) I am, Sir, Your obedient Servant,—.

Wife of Knight.—(a) Lady—, (b) Madam, (c) Your— (d) I am, Madam, Your obedient Servant,—.

Privy Councillor.—(a) The Right Hon.—, (b) Sir, (c) Your— (d) I am, Sir, Your obedient Servant,—.

Lord Mayor.—(a) The Lord Mayor of—, (b) My Lord Mayor, (c) Your Lordship's— (d) I am, My Lord Mayor, Your obedient Servant,—.

Archbishop.—(a) His Grace the Archbishop of—, (b) My Lord Archbishop, (c) Your Lordship's— (d) I have the honour to be, My Lord Archbishop, Your Lordship's obedient Servant,—.

Bishop.—(With seat in the House of Lords). (a) The Right Rev. The Bishop of—, (b) My Lord Bishop, (c) Your Lordship's— (d) I have the honour to be, My Lord Bishop, Your obedient Servant,—.

Bishop.—(Without seat in the House of Lords). (a) The Right Rev. The Bishop of—, (b) Sir, (c) Your— (d) I am, Sir, Your obedient Servant,—.

Mayor.—(a) The Worshipful Mayor of—, (b) Sir, (c) Your— (d) I am, Sir, Your obedient Servant,—.

LESSON SEVENTEEN

DIVISION OF WORDS

THE correct division of words at the ends of lines must be studied, in order to ensure that the right-hand margin is made as uniform as possible without transgressing any of the generally accepted rules. The main principle to be observed is that of pronunciation. A word must never be divided in such a manner that the pronunciation of the word is affected in any way. This first rule, therefore, governs all the other rules given below.

1. A word must be divided in a manner that enables the original pronunciation of the word to be preserved :

Examples : resign-nation (not resign-ation), prop-erty (not pro-property).

2. Words of one syllable must never be divided ; similarly plurals of words which are of only one syllable must never be divided :

Examples : strength, thought, would, weighed, crease, creases.

3. Small words of more than one syllable also should not be divided :

Examples : also, alas, satin.

4. The suffix -ing can be separated : where this suffix requires the doubling of the preceding consonant, the second consonant should be carried to the next line with the suffix :

Examples : prov-ing, correct-ing, pleas-ing, mass-ing, plod-ding, forget-ting.

5. Avoid two-letter divisions :

Examples : lively (not live-ly), unready (not un-ready), pleaded (not plead-ed).

6. One-letter syllables must not be separated from the rest of the word :

Examples : again (not a-gain), rocky (not rock-y).

7. In words containing double consonants, divide between the two consonants :

Examples : excel-lent, allot-ted, neces-sary, posses-sive.

(Note : pre-ferred—not prefer-red, and similar words).

8. In words in which two consonants come together, divide between the two consonants if each consonant is sounded separately :

Examples : sen-tence, estab-lish, abun-dance.

9. If three consonants occur together, the word can usually be divided after the first consonant :

Examples : chil-dren (not child-ren), magis-trate.

10. In the suffixes -tion, -sion, -cious, -cial and similar endings, the component letters of the suffixes must not be separated :

Examples : correc-tions (not correct-ions), ascen-sion, finan-cial.

11. Compound and other words employing the hyphen can be divided only at the hyphen :

Examples : pre-eminant, self-conscious.

12. Compound words not employing the hyphen can be divided only at the point of junction of the two original words :

Examples : type-writing, side-board, pen-holder, table-cloth.

13. Do not divide abbreviated words :

Examples : exams (not ex-ams), Messrs.

14. Avoid dividing groups of figures at line-ends :

Examples : £756 19s. 6d., 1,145,678.

15. Do not divide words such as the following, where the correct interpretation of the word would be confused :

Examples : re-pair (pair again), re-cover (cover again).

16. Do not divide Anglo-Saxon words ending in "-ther" :

Examples : brother, whether.

17. Avoid dividing proper names, such as the names of people or of towns :

Examples : Mr. S. A. Hamilton

Liverpool

(Note : It would be correct to type Mr. S. A. on one line and Hamilton on the next, but it would be incorrect to type Mr. S. on one line and A. Hamilton on the next, or to divide the name Hamilton).

18. Do not divide a word at the end of a page.

19. Avoid a succession of lines ending with a hyphen.

20. Finally, when there is any doubt about a word, do not divide it.

These rules cover all possible contingencies. You should make a careful study of each rule, and then seek to recall the corresponding rule when you are faced with the problem of dividing any particular word at the end of a line. Sometimes you will hear or read of an old-fashioned rule which says that the second part of a divided word should not begin with a vowel. This has no bearing upon the main question, namely that of pronunciation, and therefore the rule can be ignored.

It should be noted that some employers object to the dividing of words at line ends, and there are some government offices where the practice is forbidden. Generally speaking, however, the employer who is concerned with these questions prefers to see a fairly uniform right-hand margin in the typewritten work, and the only method of ensuring this is by the judicious division of words under the above rules. If the principle of pronunciation is understood, there should be no real difficulty. For example, consider the word *facetious*. A word of this nature cannot be divided at all. If it is divided at *face-* or at *facet-* the pronunciation is altered, and when the reader gets to the next line he is compelled to hesitate and put the two parts of the word together again.

LESSON EIGHTEEN

SPECIALIZED TYPEWRITING WORK

THE additional information provided in this lesson should be studied when you have completed the remainder of the lessons. Some of the points relate to the specialized work of the typist. For example, type-writing work in legal offices is of a specialized nature, owing to the form in which various documents are set out. If you are working in a legal office, you will obtain the knowledge you require in this respect by studying the filed copies of the documents. Meanwhile, the general knowledge you have secured will be to your advantage.

Combination Characters Sometimes characters are required that are not provided on the standard keyboard. These characters can usually be obtained and fitted in place of the existing keys, such as some of the fractions, or they can be formed by using two existing characters. The following are the principal characters of this nature :

Asterisk	*	Use the small x and the hyphen
Dagger	†	Use the capital I and the hyphen
Double Dagger	‡	Use the capital I and two hyphens
Equation sign	=	Use the hyphen twice
Multiplication sign	×	Use the small x
Addition sign	+	Use the hyphen and the apostrophe twice
Division sign	÷	Use the hyphen and the colon
Exclamation mark	!	Use the apostrophe and the full-stop
Cedilla	ç	Use the small c and the comma
Tilde	ñ	Use the n and the hyphen
Grave and acute accents : Unless accents are fixed to the machine, they should be written in ink.		

Invoices and Statements : The practice differs in different offices in the

treatment of typewritten invoices and statements. The method used in the particular office in which you may be required to do this kind of work will be readily observed and mastered.

Legal Work : The work of the typist in a solicitor's office is the subject of special study. Briefly, documents are of two kinds, namely documents such as deeds, agreements, leases, etc., which embody some form of agreement, and documents such as affidavits, which contain sworn statements of fact, or documents of a purely reference character.

In the case of deeds and agreements, the documents may be said to appear in three stages, namely the draft, the fair copy, and the engrossment (i.e. the final copy for actual signature). In the final copy, all dates, money amounts, quantities and measurements must be typed in words and not in figures. No punctuation marks are used, except in the case of numbered clauses ; but certain words are typed in capital letters to indicate a new phase of the document. The example in Fig. 27 (pages 136 and 137) illustrates this. Abbreviations are used extensively in draft legal documents, and the typist in a legal office should secure a complete list of these and become thoroughly familiar with them. Abbreviations must never be used in engrossments.

Official Correspondence : Letters in government or similar offices are arranged in a slightly different form from that of business offices. The chief point of difference is that the name and address of the correspondent are typed at the foot of the first page, instead of in front of the salutation. Generally, the same practice is followed in other respects as in the case of business letters. Quarto paper is generally used, and single line spacing, although there are exceptions where foolscap paper and double line spacing are used, as in the days of long ago.

This method of placing the name and address at the foot of the first page of the letter is also followed in some semi-professional offices, such as in banks and in solicitors' offices. Often octavo paper is used instead of quarto paper in offices of this kind.

LESSON NINETEEN

CARBON COPYING

IT is usually necessary to secure more than one copy of matter produced with the typewriter in business offices. For example, if a firm writes a letter to a customer, it is essential that the firm has some record of what was said in the letter. The simplest form of record is a copy made on a separate sheet of paper, which can be placed in the correspondent's file. This copy is made with the use of carbon paper.

Prior to the introduction of carbon paper, copies had to be taken by what is called the press copying method. This necessitates the use of a hand press and a book of special tissue pages. The original letter or document is typed with a copying ribbon : when ready, the letter is placed under one of the tissue leaves, with a damp sheet and oil sheets on either side of the page, and the book placed in the press. When removed from the press, a facsimile of the original letter appears on the tissue. There is a more modern form of this process in use nowadays, known as a rotacopier, which enables

THIS MORTGAGE is made the Twenty-seventh day of March One thousand nine hundred and forty-five BETWEEN WILLIAM WILLIAMS of 19 Welsh Road Cardiff in the County of Glamorganshire Furrier (hereinafter called "the Mortgagor") of the one part and THE ALL-COUNTIES PERMANENT BUILDING SOCIETY incorporated under the Building Societies Act 1874 (hereinafter called "the Society") of the other part WHEREAS the Mortgagor is a member of the Society and is the holder of twenty shares in the same Society numbered respectively 3568 to 3587 inclusive and is as the holder of such shares entitled pursuant to the rules of the Society to an advance of Four hundred Pounds out of the funds of the Society AND WHEREAS the Mortgagor is seised of the property hereinafter described in fee simple in possession free from incumbrances NOW THIS DEED WITNESSETH that in consideration of the sum of Four Hundred Pounds paid by the Society to the Mortgagor on or before the execution of these presents (the receipt of which sum the Mortgagor hereby acknowledges) he the Mortgagor hereby covenants with the Society to pay to the Society duly and punctually all subscriptions fines and other moneys which shall from time to time become due and payable by him according to the rules of the Society in respect of the said shares and also to observe all the rules and regulations of the said Society which shall from time to time be in force or which ought to be observed by him in relation to the said shares or the said advance AND THIS DEED ALSO WITNESSETH that for the considerations aforesaid the Mortgagor as BENEFICIAL OWNER hereby charges by way of legal mortgage ALL THAT piece of land situate on the south side of Rivers Road Cardiff in the County of Glamorganshire with the messuage thereon numbered 41 in the same road with the payment to the Society of the principal money and other moneys covenanted to be paid by the Mortgagor

PROVIDED ALWAYS that if the Mortgagor shall duly and punctually pay all subscriptions fines and other moneys which shall from time to time hereafter become payable in respect of the said advance in accordance with the rules and regulations for the time being of the Society and shall duly observe and perform all such rules and regulations the Society will cause these presents to be vacated by a receipt indorsed hereon in pursuance of Section 42 of the Building Societies Act 1874 PROVIDED ALSO that the power of sale and the power to appoint a receiver conferred by the Conveyancing and Law of Property Act 1881 shall notwithstanding anything in that Act contained be exercisable by the Society at any time after default shall be made by the Mortgagor in payment of any subscription fines or other moneys payable by him in accordance with the said rules and regulations and that on any sale purporting to be made by the Society under the statutory power no purchaser shall be bound to inquire whether any such default as aforesaid has occurred or be affected by express notice that no such default has occurred

IN WITNESS whereof the said parties to these presents have hereunto set their hands and seals the day and year first above written

SIGNED SEALED AND DELIVERED)	
	)	L.S.
by the above-named WILLIAM)	
)	
WILLIAMS in the presence of)	

THE COMMON SEAL OF THE ALL-)	
	)	L.S.
COUNTIES PERMANENT BUILDING)	
)	
SOCIETY was hereunto affixed)	
)	
in the presence of)	

Fig. 27. Specimen of a legal document. It should be noted that no punctuation is employed but that new phases are indicated by capital letters.

the same idea to be carried out more expeditiously with the aid of a rotary machine and loose sheets instead of the hand press and a book.

When only one or two additional carbon copies of a letter or document are required, it is referred to as carbon copying, or taking carbon copies. When several copies are obtained with carbon paper, it is referred to as manifolding.

Generally, in the case of business letters, only one carbon copy is required. Sometimes two or more duplicates may be necessary, for other people or other purposes. In the case of work other than correspondence, it may be necessary to obtain as many as twenty carbon copies of a document. The number of copies that can be obtained with one typewriting operation depends entirely upon the kind of paper that is used and the quality of the carbon paper. If ten copies are required, for example, a good carbon paper and fairly light or thin paper must be used. If thick paper were used, and the carbon paper was poor, the result would be that most of the ten copies would be very faint, or blurred, and practically unreadable.

The average number of copies that can be taken satisfactorily on paper of average weight and carbon paper of average quality is five. If as many as twenty copies were required, it would be necessary to use very thin paper. Therefore, if the question of the quality of the paper is important, it is better to obtain the copies by re-typing, either in groups of five or of ten. Beyond twenty copies it is much more satisfactory to use the stencil and duplicator method referred to in the next lesson.

When using carbon paper there are only two points to consider :

1. The carbon or coated side of the carbon paper must be next to the sheet of paper on which the copy is to appear.
2. Care must be taken when erasing and making corrections.

When erasing, it is necessary to turn back the paper and insert a thin card between the carbon and the underneath copy. Otherwise, when you are rubbing out an error on the top copy you will be making a smudge on the underneath copy. When the error on the top copy is erased, remove the slip of card and erase the error from the carbon copy. Then return the paper to its correct position in the machine and type the correction. The typed correction will, of course, appear on both copies, or, in the case of manifolding, on all the copies. The erasures and corrections should be made without removing the papers from the machine. If, for any reason, corrections have to be made after the papers have been removed from the machine, it is necessary to rub out the error in each copy separately, and to insert each sheet separately in the machine in order to type the correction. The correction is less noticeable if, before typing on the individual carbon copies, a small piece of paper and carbon are inserted between the ribbon and the sheet.

The use of an eraser is a necessary evil in all typewriting work, but the use of it is really an art. Some typists are able to rub out an error and correct it so neatly that it is very difficult to see that a correction has been made. Others make a nasty mess of the task. When erasing, move the carriage so that the eraser filings do not drop down into the machine. Confine the rubbing to the individual letters that have to be removed. Use a good quality typewriter eraser only, and rub very lightly, never using so much

force that the paper is seriously impaired. Keep the eraser protected from dirt and dust and not, as is often the case, on the floor !

When several copies of the same typed matter are required, the task of assembling the sheets of paper and the sheets of carbon must be done methodically. This is the best plan to follow. Place the top sheet of paper (i.e. the sheet on which the original typing is to appear) face downwards on the desk. Then place a sheet of carbon paper on top of the sheet, with the coated surface upwards. Place the second sheet of paper over this : then another sheet of carbon paper, coated side upwards—and so on, for as many copies as you require. Each sheet must be carefully placed with the edges straight with one another ; otherwise the carbon papers will appear with the lines sloping upwards or downwards on the page.

Then pick up the assembled batch of papers carefully. Turn back the paper release, and place the top edge of the batch in between the paper roller and the open feed rolls. When in position, close the paper release, and turn the papers carefully into position. When assembling the papers it is a good plan to place the carbon sheets so that the top edges of the carbons appear about a quarter of an inch lower than the top edge of the sheets of paper. This facilitates feeding, and also the removal of the carbons from between the sheets when the work is finished.

Care must be taken of the carbon paper. Otherwise you will be responsible for a considerable amount of unnecessary wastage. Keep new carbons in a flat box by themselves, and the partly used carbons in another flat box by themselves. Throw away the carbons when they show signs of wear and produce only faint copies ; do not keep them indefinitely, mixed up with the still usable carbons or with the new carbons. Never fold or roll carbon paper, and don't leave the carbon sheets lying about loose on the desk or in a drawer. In order to use up the whole of the surface of the carbon paper, change the position of the carbon between the paper, so that the surface between the used lines comes into use. If the method of placing the carbon with the top edge lower than the top edge of the paper is employed, it is a simple matter to carry out this economy plan.

LESSON TWENTY

STENCIL CUTTING AND DUPLICATING

WHEN a large number of copies of the same piece of typewriting work is required it is more satisfactory, from every point of view, to use the duplicating method, instead of the carbon copying or manifolding method described in the last lesson. By the duplicating method, copies up to 3,000 can be obtained with only the one typewriting operation. There are several kinds of duplicating machines, and two or three variations of the process. Roughly, however, the processes can be grouped into (1) the stencil process ; (2) the lithographic process ; and (3) the multigraph process.

The multigraph process entails the setting of imitation typewriter type in a curved frame, which, when ready, is attached to a rotary drum, so that the matter is printed as a complete page. The impression is made through an inked ribbon, and thus the effect of original typewriting work is produced.

This method is employed very largely for circular letters. The machine provides for a similar ribbon impression of the name and address of the customer or correspondent, thus adding to the original appearance of the letter.

The lithographic process is also a method adapted from the printer. It is, however, more closely related to the typewriter itself, since it does employ the actual typewritten copy. A special plate or prepared sheet is used, and a lithographic ribbon is employed. The typewriting is done direct on the plate. The plate is then chemically treated, and copies up to any required number are obtained with the use of the rotary machine.

The stencil process, with which we are concerned in this lesson, is the simplest of all three methods, and is therefore the method in more general use. This process is as follows.

The typewriting is produced on a sheet of specially prepared paper, of a fibrous nature, so that when it receives the impact of the type in the typewriter, instead of the letter impressions being purely superficial, as in the case of typing on paper, they cut into the material, with the effect of a stencil. In other words, the material is perforated without being pierced. The effect is very similar to the ordinary stencils used in art, for decoration purposes, in trade, for marking packing cases, and, indeed, in children's nurseries.

The sheet of tissue-like fabric is called a stencil sheet. Somewhat erroneously, they are sometimes called stencils, but the sheet does not become a stencil until it is cut. Old-fashioned stencil sheets were coated with wax, so that the type impressed the wax in a similar manner, but wax stencil sheets are now almost completely superseded by waxless or indestructible stencil sheets. Wax stencil sheets had to be handled with great care, because the slightest scratch or crease would result in the duplicated sheets being marked. Modern stencil sheets, fortunately, do not require any care in handling—other than the simple treatment that is given to ordinary paper.

When typing on the stencil sheet, a normal steady touch is all that is required. The secret of a well-cut stencil is to type at a regular, steady pace, making certain that each type bar is struck with the same timing and the same weight of touch. It is advisable to set out the matter on a draft sheet of paper, in the form in which it is required, before cutting the stencil. This facilitates accuracy in typing, and ensures correct line-endings, display, etc.

Before the stencil is cut, the following instructions must be followed :

1. Clean the type of the typewriter.
2. Switch the ribbon out of action.
3. Observe carefully the instructions given with the stencil sheets you are using.

When the stencil is cut, the copies are obtained with the use of a duplicating machine. There are two kinds : (a) the flat-bed duplicator, and (b) the rotary duplicator. The flat-bed duplicator is a simple machine, with the diaphragm stretched on a hinged frame. The ink is spread by hand on a flat stone bed, and, with the aid of a hand roller, the diaphragm is saturated with the ink so that it percolates through the diaphragm and through the stencil, which is fastened under the diaphragm. Copies are

obtained by placing a sheet of paper beneath the hinged frame, and closing the frame down over the paper, after rolling with the inked hand roller. Each copy must be rolled in this manner, one by one. Any number of copies can be secured in this manner, but the process is a slow and arduous one. The method is therefore best reserved for a small number of copies.

For a large number of copies a rotary duplicating machine should be used. This is a machine on which the ink diaphragm is stretched on a revolving drum. The stencil is fastened over this diaphragm, and the copies are obtained by rotating the drum so that the paper passes between the drum and the roller. With rotary machines the paper is fed automatically into the machine, and ejected automatically from the machine as each copy is made.

With a properly cut stencil, and expert operation of the hand or rotary machine, it is sometimes difficult to distinguish a piece of duplicated matter from a piece of original matter, and for this reason the stencil process is very often preferred.

Duplicating paper should be used for this kind of work—that is, paper of a semi-absorbent and quick-drying nature. If a surface paper is used, it is necessary to lay out each copy separately so that the ink can dry in the air. Errors made when cutting the stencil are corrected by means of a correcting fluid, which is applied over the error so that the cut letters fill in again. The correct letters can then be typed over the errors, without leaving any sign of the correction. Where whole paragraphs are required to be altered, a process known as the grafting process is used. This is a simple method, comprising the typing of the correct matter on a separate piece of stencil sheet, cutting the incorrect matter away from the original stencil sheet, and grafting on the correct piece.

Provided the stencil is well cut the secret of good production with hand machines lies in (a) the use of a good duplicating paper and a good quality stencil ink, and (b) the control of the roller. With a flat-bed machine and a hand roller, there is a knack, easily acquired, of securing the right pressure of the hand, and a steady pace with the roller as it is drawn from the top of the frame to the bottom. Uneven movement, both with the flat-bed machine and the hand-turned rotary, will result in a duplicated copy appearing unevenly inked.

LESSON TWENTY-ONE

KINDS OF TYPEWRITERS

TYPEWRITERS can be broadly classified in four groups: (1) standard typewriters; (2) portable typewriters; (3) noiseless typewriters; and (4) accountancy machines. The first group is in most general use. The term standard implies that the machine is of full size, that it employs the standard or universal keyboard, and that the type and line space sizes are standard. The portable machine, as its name implies, is light in weight and suitable for carrying about.

The noiseless typewriter is a more recent development of the machine. Several years ago a machine known as the Noiseless was put on the market.

Eventually the patent rights in this machine were bought up, the machine considerably improved, and it is now marketed by three separate companies under the three names the Underwood Noiseless, the Remington Noiseless, and the Smith Premier Noiseless. Although the machine is not entirely silent, as its name might appear to imply, its mechanism is so designed that much of the noise of the standard and portable machines is eliminated. Mainly, the noise of the type striking the paper is avoided, and other devices are used to remove the usual accompanying noises of typewriters being operated.

Whatever machine you use, you should learn how to use it efficiently and how to take care of it. It is very difficult to produce good work upon a neglected machine. When your machine is not in use, keep it covered. In the case of a portable machine, a strong case is always supplied. In standard machines a cloth dust cover is supplied. Never leave your typewriter uncovered so that it can collect the dust that is always in the air and especially when the office cleaners are at work.

Keep the frame and other surface parts of the typewriter clean, by dusting with a cloth every day. With the aid of a long-handled brush, clean all accessible parts as frequently as you can.

Particularly carry out the following duties: Moisten the carriage rails daily with an oily rag; keep the type bars free from dust, grit and eraser filings; brush the type frequently, using a forward and backward movement, not a sideways movement, which only transfers the collected matter from one type to another; keep the ribbon vibrator clean, and always change the ribbon as soon as it becomes faint or worn; protect the paper roller by using a backing sheet when you type; make yourself responsible for the care of the machine (even if others use it) and be proud of the fact; do not leave your machine in the rays of the sun, whether covered or not; and, finally, insist upon a mechanic running over it periodically.

Dust is, of course, the great destroyer of typewriters. However careful you may be, the dust gets everywhere on the machine. Its damaging effects can, however, be reduced, by patiently cleaning a part of the machine every day. One place, for instance, where dust accumulates, is between the levers of the keys. With a suitable brush and a rag, this dust can be removed. Care should be taken also to keep the underneath part of the machine free from dust. If the machine is not fastened down, make a point of dusting the table under the machine, and the key levers at the base of the machine, daily. If the machine is fastened down, at all events keep the table surface free from dust. Some typists have a habit of using the underpart of the machine for getting rid of waste paper. This is a foolish habit. Paper thrust beneath the machine can easily interfere with the mechanism.

Make sure that you know how to fix a new ribbon correctly when required. The important points in this connexion are (a) that the ribbon is running off the spools in the right direction, and (b) that it is properly threaded in the ribbon carrier or ribbon vibrator.

Before fixing the new ribbon, examine the old ribbon in its fixed position, and see that you fix the new ribbon so that it runs in the same direction as the old. If you do not study this point, the ribbon will not reverse automatically, or, perhaps, the ribbon will not travel at all.

LESSON TWENTY-TWO

DEVELOPMENT OF SPEED

THE development of speed in copying is a matter of careful training. Speed does not develop accidentally, simply by copying page after page of matter. Your first endeavour should be to develop a skill that enables you to type at approximately 25 words a minute. You should find yourself in possession of this skill as a result of the work you have accomplished upon the early keyboard lessons. In no circumstances should you attempt to type at a more rapid rate, until you are quite certain that you can type accurately at that rate. By typing too fast, you will only make more errors. The errors will not disappear all the time you continue to type beyond your skill.

Therefore your first step in speed development is to make sure that you can keep up a regular pace of approximately 25 words a minute—roughly two strokes a second.

When you are able to do this, apply yourself to Exercises 58 and 59.

EXERCISE 58

Type the guide key exercise over and over again, at two strokes a second (not faster) with your fingers in permanent contact with the guide keys.

asdfgfa ;lkjhj; asdfgfa; lkjhj; asdfgfa ;lkjhj;

Exercise 58 is the simple guide key exercise you have already practised. Your purpose in practising it now is to ensure that you acquire a central position at the keyboard. The more times you practise this exercise, the more skilled you will be at the keyboard, and the surer will be your speed development. Note, however, that the exercise must not be typed rapidly. It must be typed at the recommended speed of two strokes a second and no faster. The important point is that in the typing of this exercise, you must seek to prevent your fingers from coming off the guide keys, and you must make sure that you are typing with an absolutely regular beat. If you type faster, the fingers will not stay on the guide keys, and, moreover, your typing of the exercise may become ragged, instead of regular.

EXERCISE 59

Type the alternate guide key exercise, with your fingers off the guide keys. Your speed should be increased gradually. Regularity of beat must be preserved.

a;sldkfjghfjdksla;sldkfjghfjdksla;sldkfjghfjdksla;

Exercise 59 comprises the guide key letters, arranged alternately. The exercise must be typed with the fingers off the guide keys, instead of resting on the guide keys. The practice should commence slowly, and you should gradually train yourself to increase the speed on this exercise. It is of great importance, however, that the whole of the operation should be absolutely regular. If in increasing the speed the operation becomes ragged, it is a

sign that you are typing beyond your skill. Progress in speed with this exercise must be gradual, and you must be guided by your ability to preserve an absolutely regular touch. Provided you observe this instruction, you can seek to develop your speed as high as you can get it. The effect of the practice will be to develop your finger dexterity, and your sense of the central position at the keyboard. Great care must be taken to prevent the fingers from moving out of position over the keys. Do not allow the hands to wander about the keyboard.

When you have developed a reasonable skill with these two exercises, proceed to Exercise 60.

EXERCISE 60

ab ac ad ae af ag ah ai aj ak al am
an ao ap aq ar as at au av aw ax ay az

This exercise will help you to become more accurate in key finding, with your fingers off the guide keys. Once again, however, the practice must be carried out with absolute regularity of beat. Try to increase your speed in this work. The way to tackle the exercise is to take the first two groups of letters and repeat them over and over again (that is, *ab ac*); when you are satisfied that you cannot help typing *b* and *c* correctly, proceed to the next two groups (*ad ae*); then type the four groups, and so on right through the exercise. Finally, test your skill by typing the complete exercise from beginning to end, using your fastest possible speed.

EXERCISE 61

abc abcd abcde abcdef abcdefg abcdefgh abcdefghi
abcdefghij abcdefghijk abcdefghijkl abcdefghijklm
abcdefghijklmn abcdefghijklmno abcdefghijklmnop
abcdefghijklmnopq abcdefghijklmnopqr
abcdefghijklmnopqrs abcdefghijklmnopqrst
abcdefghijklmnopqrstu abcdefghijklmnopqrstuv
abcdefghijklmnopqrstuv abcdefghijklmnopqrstuvw
abcdefghijklmnopqrstuvwxy abcdefghijklmnopqrstuvwx
abcdefghijklmnopqrstuvwxy

This is a similar exercise, and it should be practised in a similar manner. First type the letters *abc* until you are certain of your action. Then add *d* and type *abcd*; then add *e* and so on, until eventually you can type right through the alphabet, at your fastest speed, without hesitation or error.

EXERCISE 62

abide acorn adept aeiou after again ahead aided
ajax; akin; alone among anent aorta apex; aqua;
arise aside atone augur avert await axles ayahs

Practise these words in the same manner. Take the first two words and type them over and over again one after the other, at forced speed. Then take the next two words. Then type the four practised words, and so on right through the list. Finally, test your skill by typing the complete series of words from beginning to end at your fastest speed.

When you have made some progress with this work, proceed to Exercises 63, 64, and 65. These exercises should be repeated over and over again, always typing at your fastest speed. Note, however, that with all this special speed practice, it is absolutely essential that your whole attention should be on the copy and not on your hands, or on the keyboard, or on the typed characters as they appear on your paper.

One word of advice in regard to speed. It is quite in order to type at your fastest speed for the special purpose dealt with in this lesson. It is not in order to type at your fastest speed when you desire to type accurately. The expert types well below his fastest speed—and that is why he is able to type expertly.

EXERCISE 63

Now is the right time to put as much effort as you can into your work. There is no golden rule for success other than hard work. No one has succeeded in any enterprise without hard work. You may get some kind of luck now and again, but luck is not a thing you can depend upon for the carrying out of some definite purpose. Find out how a thing is best done, and then do it over and over again. That is the way to succeed.

EXERCISE 64

Do not imagine you can create a monopoly in brains. That would be a strange situation to establish. It would be entirely foreign to the constitution of our state. It would assassinate all endeavour. We should find ourselves a listless nation, with nothing to do except what we were told. We should be a nation of artificial robots. There are querulous people who would be very happy simply to have to do what they were told, of course, but fortunately for the world in general they are in the minority.

EXERCISE 65

Just consider the excessive hazards of exploration, how brave men face unknown dangers, how they have to fight, in many cases, even the elements in order to solve the problems of what lies ahead. We cannot read of the adventures of famous explorers without realizing that there must be something in the make-up of those men that sets them apart from their fellow men. Yet we all have something of the adventurer within us. Even the boy or girl who is embarking upon a commercial career, and sets foot for the first time inside an office door, is an adventurer—at all events to the extent that he or she is exploring the possibilities of a career inside that door.

SECTION IV

COMMERCIAL ARITHMETIC

LESSON ONE

ADDITION, SUBTRACTION, MULTIPLICATION AND DIVISION

At the end of an arithmetical problem we arrive at a number. On the size of that number much may depend : an estimate of the output of a factory, a profitable or unprofitable sale price and so on. Faulty calculations have turned the scale many times : in business an arithmetical result may mean the difference between profit and loss. The end result is so important that we should neglect no method of ensuring its accuracy.

Accuracy is a matter for care and humility. The only security we have is perpetual vigilance. Whenever possible we introduce checks. Nevertheless there is always the possibility that errors may remain undetected.

Addition

Addition is extremely important in business arithmetic. We want a standard method, and we should adhere to that method. Using the example below as a specimen the method we suggest is : (a) Begin at the top and add down. This brings the pen into place for writing the units figure of the total. (b) Write the carried figure as a small figure at the top of the next column. Proceed in this way through the columns. (c) As a check, begin at the bottom and add up. (d) As a further check add the columns again, adding 5 and 5, 6 and 4, etc., as tens, wherever they occur ; 6 and 6, 7 and 5, etc., may be added as twelves.

46544	13321	22212
38574	38574	364257
9653	9653	8643
143807	143807	76809
26573	26573	167584
64891	64891	
364257		617293 C
8643	283498 B	
76809		
167584		
<u>900791 A</u>	283498 B	
	617293 C	B + C = A
	<u>900791 A</u>	

When using the tots Exercises 1-3 for practice : (a) Cover all but the top four numbers ; add these numbers. Cover the top four numbers ; add the remaining five. Add the two results. (b) Deal in the same way with the top five and lower four, the top three and lower six, and so on. (c) Cover any number ; add the remaining eight ; add on the covered number.

Subtraction

If you have cultivated a method of subtraction it is well to stick to it. The following is a standard method :

In the example below, we have (starting on the right) : 7 from 4 we cannot ; borrow 10, making the next figure in the top line 0 ; 7 from 14 equals 7 ; write 7. 1 from 0 we cannot ; borrow 10, making the next figure in the top line 8 ; 1 from 10 equals 9 ; write 9. 4 from 8 equals 4 ; write 4. 8 from 6 we cannot ; borrow 10 ; we go forward to the 3, make this 2, leave 9 over the 0 ; 8 from 16 equals 8 ; write 8. 0 from 9 equals 9 ; write 9. 9 from 2 we cannot ; borrow 10, making the next figure in the top line 7 ; 9 from 12 equals 3 ; write 3. 6 from 7 equals 1 ; write 1. 2 from 5 equals 3 ; write 3.

$$\begin{array}{r} 58306914 \text{ A} \\ - 26908417 \text{ B} \end{array}$$

Check : Add lines B and C.
B + C = A

$$\underline{31398497 \text{ C}}$$

The following method is quick and interesting and can be used as a check. Look again at the example above. We begin on the left. $5 - 2 = 3$, we notice that the next figures are 8 and 6, and that the upper number is greater than the lower ; so we write 3. Then : $8 - 6 = 2$; the next numbers are 3 and 9, and the upper is less than the lower ; so we write 1 less than 2, that is 1. $13 - 9 = 4$; we ignore the two 0's because they are alike, and notice that 6 (upper) is less than 8 (lower) ; so we write 1 less than 4, that is 3. $0 - 0 = 0$; we have 6 above and 8 below, so we write 1 less than 10, that is 9. And so we proceed, $16 - 8 = 8$; (9 more than 4) ; write 8. $9 - 4 = 5$; ignore the two 1's, 4 less than 7 ; write 1 less than 5, that is 4. $1 - 1 = 0$; 4 less than 7 ; write 1 less than 10, that is 9. $14 - 7 = 7$; write 7.

$$\begin{array}{r} 999910 \\ 1000000 \\ - 378459 \\ \hline 621541 \end{array}$$

We sometimes have to subtract from a number with a string of 0's. In this example we have on the right $10 - 9 = 1$. We treat all the other numbers as 9's, because $1,000,000 = 999,990 + 10$. $9 - 5 = 4$, $9 - 4 = 5$, $9 - 8 = 1$, and so on.

Multiplication

$$\begin{array}{r} 4859 \times \\ 3067 \end{array}$$

$$\begin{array}{r} 3067 \times \\ 4859 \end{array}$$

$$\begin{array}{r} 14577000 = 4859 \times 3000 \\ 291540 = 4859 \times 60 \\ 34013 = 4859 \times 7 \\ \hline \end{array}$$

$$14902553 = 4859 \times 3067$$

$$\begin{array}{r} 12268000 \\ 2453600 \\ 153350 \\ 27603 \\ \hline \end{array}$$

$$14902553$$

Checks : (a) Interchange multiplier and number multiplied, and repeat multiplication. (b) Cast out the 9's (see below). (c) Divide the result (product) by the multiplier. This should give the number multiplied.

Begin by reading the multiplier. In this example it is 3067. The separate multipliers are 3000, 60, and 7. For 3000 we write three 0's (the number of 0's in the multiplier), and multiply by 3. For 60 we write one 0, and multiply by 6. For 7 we just multiply by 7. Dots are sometimes used instead of the 0's, but this is not a good practice. The 0's draw attention to what is being done and they are less likely to be overlooked than dots.

$\begin{array}{r} 4859 \times \\ 3067 \\ \hline 34013 \\ 291540 \\ 14577000 \\ \hline 14902553 \end{array}$	or	$\begin{array}{r} 4859 \times \\ 3067 \\ \hline 34013 \\ 29154 \cdot \\ 14577 \cdot \cdot \cdot \\ \hline 14902553 \end{array}$
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This example shows another method. We begin with the multiplier on the right, i.e. 7. We multiply by 7, and put the first figure under the 7. We then multiply by 6, and put the first figure under the 6. We multiply by 3 and put the first figure under the 3. The empty spaces at the end are filled with 0's or dots.

The method of "casting out the 9's" is a useful check. We add the digits of each number being multiplied, dropping 9's whenever possible. For 4859 we have 8 (rejecting 4 + 5, and 9). For 3067 we have 7 (rejecting 3 + 6). Then $8 \times 7 = 56$; $5 + 6 = 11$; drop 9 and we have 2. The product should give the same end result. $1 + 4 + 9 + 2 + 5 + 5 + 3 = 2$ (after rejecting 9, 4 + 5, and a further 9).

Division

$\begin{array}{r} 2397 \\ 387 \overline{) 927654} \\ \underline{774} \\ 1536 \\ \underline{1161} \\ 3755 \\ \underline{3483} \\ 2724 \\ \underline{2709} \end{array}$	$\begin{array}{r} 2397 \times \\ 387 \\ \hline 719100 \\ 191760 \\ 16779 \\ \hline 927639 \\ + 15 \\ \hline 927654 \end{array}$	$\begin{array}{r} 387 \\ 2397 \overline{) 927654} \\ \underline{7191} \\ 20855 \\ \underline{19176} \\ 16794 \\ \underline{16779} \\ 15 \end{array}$
---	---	--

15

$$\begin{aligned} 927,654 \div 387 &= 2397 + 15 \text{ R} \\ 2397 \times 387 + 15 &= 927,654 \\ 927,654 \div 2397 &= 387 + 15 \text{ R} \end{aligned}$$

Checks : (a) Multiply the answer (quotient) by the divisor ; add the remainder. This gives the number divided (dividend). (b) Divide the dividend by the quotient. This gives the original divisor. (c) Cast out the 9's.

The example above shows a convenient method of placing the answer (quotient) in a long division sum. The advantage is that there are no gaps. When the first digit, 2, has been placed correctly over the 7, each of the following digits must have a number over it.

Three figures in the divisor (387) go into three figures ; so the first figure in the answer comes over the 7. Drop two figures from 387 and 927. $9 \div 3 = 3$; but $387 \times 3 = 1161$, and this is too great, so we try 2. $387 \times 2 = 774$; we write 2 in the answer, and subtract 774. We now have 1536 ; drop two figures, then $15 \div 3 = 5$; both 5 and 4 are too great, so we try 3 ; $387 \times 3 = 1161$; write 3 in the answer, and subtract 1161. And so we proceed step by step.

If we check by casting out the 9's, we have found that : $2397 \times 387 + 15 = 927654$. This gives, on the left : $3 \times 0 + 6 = 6$; and on the right 6 also.

Before working a long division sum it is often helpful to write it as a fraction. Thus :

$$88750 \div 375 = \frac{88750}{375}$$

(The bar in a fraction can always be read as "divided by"). In this form it is clear that top and bottom can both be divided by the same number : 5, or 25, or 125. If we divide by 125 we have : $\frac{88750}{375} = \frac{710}{3} = 236 + \frac{2}{3}$ R (Remainder), or $236\frac{2}{3}$. We are working in units of 125, so the remainder is $125 \times 2 = 250$.

Approximation

We sometimes want to give a quantity "in round numbers." We may want to give the population of a town to the nearest thousand. Thus a population of 587,364 is 587,000 to the nearest thousand. If the figure following the thousands is 5 or more then we change the 7 to 8. Thus 587,693 is 588,000 to the nearest 1000.

If we want the population "to the nearest thousand below" then we ignore the last three figures whatever they may be.

"Four figure accuracy" is the same as accuracy to the "fourth significant figure." 387,600 professes to be true to four figures ; the true amount is nearer to 387,600 than either 387,500 or 387,700.

Money approximations are sometimes given to the nearest penny, or shilling, or pound. To the nearest penny anything below a halfpenny is ignored ; anything from a halfpenny upwards counts as the next penny. To the nearest penny below, fractions of a penny are ignored. To the nearest penny above, a fraction of a penny counts as another penny. £57 9s. 9 $\frac{3}{4}$ d. = £57 9s. 9d. to the nearest penny, or the nearest penny below ; = £57 9s. 10d. to the nearest penny above.

$$\begin{aligned} 28,726,470 &= 28,726,500 \text{ to the nearest hundred} \\ &= 28,726,000 \text{ to the nearest thousand} \\ &= 28,730,000 \text{ to the nearest ten thousand} \\ &= 28,700,000 \text{ to the nearest hundred thousand} \\ &= 29,000,000 \text{ to the nearest million} \end{aligned}$$

£17 13s. 8½d. = £17 13s. 9d. to the nearest penny
 = £17 14s. to the nearest shilling
 = £18 to the nearest pound

SELF-TESTING EXERCISES

1. 839762	2. 765837	3. 905637
57846	95764	485473
108379	117594	79158
353274	68316	8765
4963	576945	158378
517648	34764	496535
93762	749048	77680
158479	67450	453769
53846	186943	259471

4. 70183674	5. 60913272	6. 17642935	7. 1000000
-60193292	-30947183	-12732946	-142567

8. 8746 ×	9. 3718 ×	10. 9087 ×	11. 7835 ×
609	70000	50908	60075

12. $57,684 \div 91$. 13. $18,562 \div 345$. 14. $906,745 \div 4175$.

15. The radius of the sun is given as 432,890 miles. What is this: (a) to the nearest 1000 miles; (b) to the nearest 10,000 miles?

16. Give £37 15s. 4½d. (a) to the nearest penny; (b) to the nearest penny above; (c) to the nearest penny below; (d) to the nearest shilling.

17. 86 yd. 2 ft. 4 in. Give this: (a) to the nearest quarter yard; (b) to the nearest yard.

18. Give the degree of approximation in: (a) 8.37; (b) .0065.

The answers to the exercises are on page 190.

LESSON TWO

VULGAR AND DECIMAL FRACTIONS

Vulgar Fractions

$\frac{7}{8}$ is an example of a vulgar fraction. We divide something into 8 equal parts (eighths), and take 7 of them to make $\frac{7}{8}$ (seven-eighths). The *denominator* (the lower number) names the fraction. The *numerator* tells how many equal parts are taken. Fig. 1 shows vulgar fractions in various shapes.

Fig. 1. Shaded diagrams indicating relative values of vulgar fractions of various shapes.

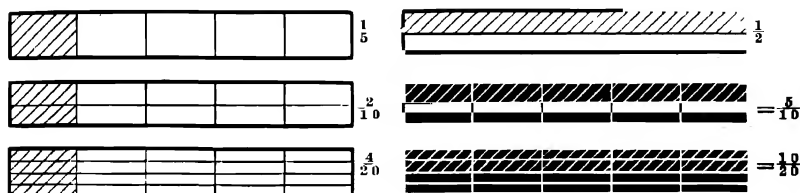
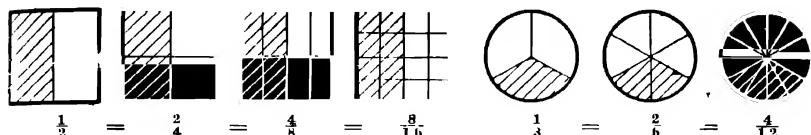
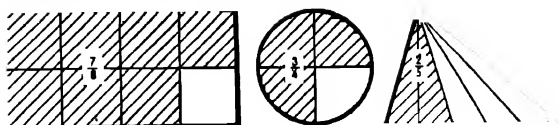


Fig. 2. Diagrams illustrated above show the relations between some important fractions, $\frac{1}{2} = \frac{2}{4} = \frac{4}{8} = \frac{8}{16}$, $\frac{1}{3} = \frac{2}{6} = \frac{4}{12}$, $\frac{1}{5} = \frac{2}{10} = \frac{4}{20}$; $\frac{1}{2} = \frac{5}{10} = \frac{10}{20}$.



Fig. 3. This diagram shows that numerator and denominator can be multiplied by any number, the same for both. $\frac{2}{3}$ is multiplied by $\frac{2}{2} = 1$, by $\frac{3}{3} = 1$, and by $\frac{4}{4} = 1$. And, of course, we could multiply by any other number as well as 2, 3, and 4.

To find $\frac{5}{8}$ of a sum of money we divide by 8 to find $\frac{1}{8}$, and then multiply by 5 to find $\frac{5}{8}$. $\frac{1}{8}$ of £2 10s. = £2 10s. ÷ 8 = 6s. 3d. $\frac{5}{8}$ of £2 10s. = 6s. 3d. × 5 = 31s. 3d. or £1 11s. 3d. $\frac{3}{4}$ of 1 stone = 14 lb. ÷ 4 × 3 = 3½ lb. × 3 = 10½ lb.

Addition and Subtraction

1 To add or subtract fractions we turn them into fractions with the same denominator. 3, 4 and 5 all divide into 60, so 60 is a common denominator for thirds, fourths and fifths.

$$\frac{3}{4} + \frac{2}{3} + \frac{4}{5} = \frac{45}{60} + \frac{40}{60} + \frac{48}{60} = \frac{133}{60} = 2\frac{13}{60}$$

To turn $\frac{3}{4}$ into sixtieths, divide 60 by 4 = 15, and multiply by 3; 15 × 3 = 45. To change $\frac{133}{60}$ into a mixed number (whole number and fraction), divide by 60 $133 \div 60 = 2\frac{13}{60}$.

2. If there are whole numbers add them first.

$$2\frac{3}{10} + 5\frac{1}{2} + \frac{2}{3} = 7\frac{9 + 15 + 20}{30} = 7\frac{44}{30} = 8\frac{14}{30} = 8\frac{7}{15}.$$

Note that we can divide numerator and denominator by 2 (or any other number, the same for both), since $\frac{14}{30} = \frac{7}{15}$ is only another way of saying $\frac{7}{15} = \frac{14}{30}$.

Here is a further example: $2\frac{1}{2} + 3\frac{7}{8} + \frac{3}{4} = 5\frac{4 + 7 + 6}{8} = 5\frac{17}{8} = 7\frac{1}{8}$.

(a) Add the whole numbers; (b) change fractions to fractions with the same (common) denominator, and add; (c) if necessary change the fraction to a mixed number.

3. We use the same method for subtraction.

$$\frac{4}{8} - \frac{2}{8} = \frac{12 - 10}{16} = \frac{2}{16}$$

$$5\frac{1}{2} - 2\frac{3}{16} = 3\frac{8 - 3}{16} = 3\frac{5}{16}$$

$$4\frac{2}{3} - 2\frac{5}{6} = 2\frac{4 - 5}{6} = 1\frac{10}{6} = 1\frac{5}{3}.$$

In the last example we have to change 1 unit into sixths ($= \frac{6}{6}$) before we can subtract.

Multiplication

1. Fig. 4 shows $\frac{3}{4}$ and then $\frac{2}{3}$ of $\frac{3}{4} = \frac{6}{12} = \frac{1}{2}$. This is the meaning of multiplication of fractions.

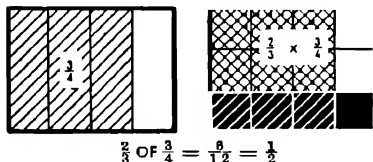


Fig. 4. Multiplication of fractions.

2. The rule for multiplication is: multiply the numerators for the new numerator; multiply the denominators for the new denominator.

$$\frac{2}{3} \times \frac{3}{4} = \frac{6}{12} = \frac{1}{2}; \quad \frac{4}{5} \times \frac{5}{8} \times \frac{7}{8} = \frac{140}{320} = \frac{7}{16}.$$

3. Before multiplying we can *cancel* any factors common to numerator and denominator (that is, divide both by the same numbers). Thus in the first

example we could cancel 3, and in the second 5 and 4.

4. When we multiply mixed numbers we begin by turning them into improper fractions (with the numerator more than the denominator).

$$3\frac{1}{3} \times 2\frac{1}{2} \times \frac{4}{5} = \frac{10}{3} \times \frac{5}{2} \times \frac{4}{5} = \frac{20}{3} = 6\frac{2}{3}.$$

5. We can multiply money and weights and measures as fractions.

$$3s. 8d. \times 3\frac{3}{4} = 3\frac{2}{3} \times 3\frac{3}{4}s. = \frac{11}{3} \times \frac{15}{4}s. = \frac{55}{4}s. = 13s. 9d.$$

$$2 \text{ ft. } 9 \text{ in.} \times 1\frac{2}{3} = 2\frac{3}{4} \times 1\frac{2}{3} \text{ ft.} = \frac{11}{4} \times \frac{2}{3} \text{ ft.} = \frac{11}{6} \text{ ft.} = 4\frac{2}{3} \text{ ft.}$$

Here are further examples:

$$\frac{5}{12} \times \frac{4}{8} = \frac{5}{6} \quad 1\frac{1}{3} \times 2\frac{1}{2} = \frac{4}{3} \times \frac{5}{2} = \frac{10}{3} = 3\frac{1}{3}.$$

(a) If necessary change mixed numbers to improper fractions; (b) cancel where possible; (c) multiply numerators; multiply denominators.

Division

1. Division is the inverse of multiplication: to divide by $\frac{1}{4}$ is to multiply by 4, and vice versa. Hence the rule for division of fractions: *invert the divisor and multiply*.

$$\frac{4}{5} \div \frac{2}{3} = \frac{4}{5} \times \frac{3}{2} = \frac{6}{5} = 1\frac{1}{5}. \text{ Thus } \frac{2}{3} \text{ is contained } 1\frac{1}{5} \text{ times in } \frac{4}{5}.$$

$$3\frac{1}{2} \div 4\frac{2}{3} = \frac{7}{2} \div \frac{14}{3} = \frac{7}{2} \times \frac{3}{14} = \frac{3}{4}. \text{ Thus } 3\frac{1}{2} \text{ is } \frac{3}{4} \text{ of } 4\frac{2}{3}.$$

2. Division is useful in sums like: 2 lb. 6 oz. costs 5s. $11\frac{1}{4}d$. What is the price per lb.?

5s. 11 $\frac{1}{2}$ d. \div 2 lb. 6 oz. = $5\frac{15}{16} \div 2\frac{3}{8} = \frac{95}{16} \times \frac{8}{16} = \frac{5}{2} = 2$ s. 6d. per lb.

Here are further examples :

$$\frac{3}{4} \div \frac{2}{3} = \frac{3}{4} \times \frac{3}{2} = \frac{9}{8} = 1\frac{1}{8}$$

$$3\frac{1}{2} \div \frac{3}{4} = \frac{7}{2} \times \frac{4}{3} = \frac{14}{3} = 4\frac{2}{3}$$

(a) Change to improper fractions if necessary ; (b) invert the divisor, and multiply.

Decimals

The decimal point marks the division between whole numbers and fractions. First place decimals are tenths : $0.4 = \frac{4}{10}$, $3.7 = 3\frac{7}{10}$, $14.8 = 14\frac{8}{10}$. Second place decimals are hundredths : $0.01 = \frac{1}{100}$, $0.05 = \frac{5}{100}$, $17.08 = 17\frac{8}{100}$, $0.65 = \frac{65}{100} = \frac{13}{20}$, $0.24 = \frac{24}{100}$. Third place decimals are thousandths : $0.004 = \frac{4}{1000}$, $6.009 = 6\frac{9}{1000}$, $0.064 = \frac{64}{1000} = \frac{8}{125}$, $0.125 = \frac{125}{1000} = \frac{1}{8}$, $9.625 = 9\frac{625}{1000} = 9\frac{5}{8}$. Fourth place decimals are ten thousandths, and so on.

Addition and Subtraction

1. When adding or subtracting decimals set the numbers down with the decimal points one under another, as in this example. Then add or subtract as if adding or subtracting whole numbers.

$$\begin{array}{r} 12\ 2 \\ 13.67 \\ 9.8 \\ 15.09 \\ .57 \\ \hline 39.13 \end{array}$$

(check : As for addition of whole numbers

2. If the lower line in a subtraction sum extends beyond the upper line, as in the example on the right ($43 - 10.375$), the vacant spaces may be filled with 0's.

$$\begin{array}{r} 369.072 \\ - 182.436 \\ \hline 186.636 \end{array} \qquad \begin{array}{r} 43.000 \\ - 19.375 \\ \hline 23.625 \end{array}$$

Check : As for subtraction of whole numbers.

Multiplication

1. To multiply by 10 move the decimal point one place to the right. To multiply by 100 move it two places to the right. To multiply by 1000 move it three places to the right. Fill in 0's if necessary.

$$\begin{array}{r} 3.67 \\ 2.84 \\ \hline 7.34 \\ 2.936 \\ .1468 \\ \hline 10.4228 \end{array} \qquad \begin{array}{r} \text{or} \\ 3.67 \\ 2.84 \\ \hline 73400 \\ 29360 \\ 1468 \\ \hline 10.4228 \end{array}$$

2. To multiply two decimal fractions: set the numbers down with the decimal points one under the other as in the example above. Multiply by the whole numbers in the usual way; put the first figures under the end figure of the number being multiplied. For tenths start one place to the right of the end figure, for hundredths two places, and so on. Add the lines in the usual way.

Or, multiply the numbers as if they were whole numbers. Then count the number of decimal places in the numbers multiplied (in this case $2 + 2 = 4$). This gives the number of decimal places in the product.

Division

Set a division sum down as a fraction. Thus, $14.672 \div 4.96 = \frac{14.672}{4.96}$. We want the denominator to be a whole number, so we multiply by $\frac{100}{100}$. $\frac{14.672}{4.96} = \frac{1467.2}{496}$. We now divide by 496 in the usual way.

$$\begin{array}{r}
 2.958 \\
 \hline
 496 \overline{) 1467.2} \\
 \underline{992} \\
 4752 \\
 \underline{4464} \\
 2880 \\
 \underline{2480} \\
 4000 \\
 \underline{3968} \\
 32
 \end{array}$$

Rough check: 14.672 is nearly 15. 4.96 is nearly 5. $15 \div 5 = 3$. The answer, 2.958 is a little less than 3.

The decimal point in the answer is over the decimal point in the dividend. After the end figure, 2, has been brought down we can go on bringing down 0's till we have as many figures in the answer as we need.

To Decimalize Money

1. Bring pence and farthings to farthings. Set down the units figure; carry the tens (if any).

2. Multiply the shillings by 5; add the carried figure; set this number down before the previous number. (If there are only two figures put 0 in front.) Put the decimal point in front.

3. Write pence and farthings as a decimal; the units figure of the pence is in the third decimal place. Thus $6\frac{3}{4}d.$ is written as .00675, and $11\frac{1}{4}d.$ as .01125. Divide by 6 and add to the number obtained in 2.

4. Prefix the whole pounds.

Example: To decimalize £3 11s. $9\frac{3}{4}d.$ (a) $9\frac{3}{4}d. = 39f.$ Set down 9; carry 3. (b) $11 \times 5 + 3 = 58$. Write 58 before 9. This gives .589. (c) $9\frac{3}{4}d. = 9.75d.$ $9.75 \div 6 = 1.625$. Add to end figure of .589. This gives .590625. (d) £3 11s. $9\frac{3}{4}d. = £3.590625$.

To Change Decimals to £ s. d.

1. Multiply the decimal part of the pounds by 20 to change to shillings, as in this example.

$$\begin{array}{r} \text{£}3.590625 \\ \times 20 \\ \hline 11.812500 \text{ s.} \\ \times 12 \\ \hline 9.75600 \text{ d.} \end{array}$$

Hence $\text{£}3.590625 = \text{£}3 \text{ 11s. } 9\frac{3}{4}\text{d.}$

2. Multiply the decimal part of the shillings by 12 to change to pence.

SELF-TESTING EXERCISES

- | | | |
|--|--|--|
| 1. $3\frac{2}{3} + \frac{5}{8} + 2\frac{7}{12} =$ | 2. $2\frac{1}{3} + 1\frac{3}{4} + 3\frac{7}{12} =$ | |
| 3. $\frac{7}{10} + 3\frac{1}{2} + 1\frac{4}{5} =$ | 4. $4\frac{3}{4} + 5\frac{1}{2} + 1\frac{9}{18} + 3\frac{7}{8} =$ | |
| 5. $4\frac{2}{3} - 1\frac{1}{8} =$ | 6. $5\frac{3}{4} - 2\frac{7}{10} =$ | 7. $4 - 2\frac{8}{10} =$ |
| 8. $6\frac{1}{2} - 2\frac{2}{3} =$ | 9. $5\frac{3}{4} - 1\frac{7}{12} =$ | 10. $2\frac{1}{3} - \frac{7}{8} =$ |
| 11. $3\frac{1}{5} - 2\frac{1}{3} =$ | 12. $9\frac{1}{4} - 4\frac{4}{5} =$ | 13. $3\frac{1}{2} - 1\frac{5}{6} =$ |
| 14. $\frac{3}{4} \times \frac{4}{5} =$ | 15. $\frac{2}{3} \times \frac{5}{6} \times \frac{7}{10} =$ | 16. $\frac{1}{3} \times 2\frac{1}{2} \times 1\frac{4}{5} =$ |
| 17. $3\frac{4}{5} \times 1\frac{5}{6} \times 1\frac{1}{2} =$ | 18. $\frac{4}{5} \times 1\frac{1}{4} \times \frac{5}{6} =$ | 19. $3\frac{1}{2} \times 4\frac{2}{3} \times 1\frac{5}{7} =$ |
| 20. $3\frac{1}{3} \times 1\frac{7}{8} \times \frac{3}{5} =$ | 21. $4\frac{1}{2} \times \frac{3}{4} \times \frac{5}{8} =$ | 22. $5\frac{1}{2} \times 5\frac{1}{2} =$ |
| 23. $\frac{3}{4} \div \frac{3}{8} =$ | 24. $\frac{4}{5} \div \frac{3}{10} =$ | 25. $3\frac{1}{3} \div 2\frac{2}{9} =$ |
| 26. $4\frac{1}{2} - 3\frac{4}{5} =$ | 27. $7\frac{7}{8} - \frac{7}{8} =$ | 28. $2\frac{1}{2} \div 1\frac{1}{7} =$ |
| 29. Find $\frac{3}{7}$ of 11s. 1d. | 30. Find $\frac{7}{12}$ of 9s. 6d. | |
| 31. $3\frac{7}{8}$ lb. costs 9s. $0\frac{1}{2}$ d. What is the price per lb. ? | | |
| 32. $\begin{array}{r} 47.68 \\ 9.77 \\ \hline 364.09 \\ 18.65 \\ \hline \end{array}$ | 33. $\begin{array}{r} 389.6 \\ 78.08 \\ \hline 964.87 \\ 374.65 \\ \hline \end{array}$ | 34. $\begin{array}{r} 3.065 \\ 19.687 \\ .836 \\ \hline 4.773 \\ \hline \end{array}$ |
| 35. $\begin{array}{r} 4.468 \\ 13.75 \\ 29.6 \\ \hline 48.087 \\ \hline \end{array}$ | | |

Set down in columns, and add :

36. $46.67 + 3.096 + 457.9 + 19.685 + 37.09.$
 37. $368 + 57.9 + 364.085 + 9.67 + .986.$
 38. $\begin{array}{r} 573.46 \\ -182.92 \\ \hline \end{array}$ 39. $\begin{array}{r} 6.3 \\ -2.745 \\ \hline \end{array}$ 40. $74.693 - 27.84.$ 41. $19 - 6.275$
42. $3.87 \times 10 =$ 43. $.875 \times 100 =$ 44. $19.06 \times 1000 =$
 45. $3.7 \times 1000 =$ 46. $8.096 \times .7 =$ 47. $.687 \times 54.8 =$
 48. $96.7 \times .84 =$ 49. $17.5 \times .089 =$ 50. $14.85 \div 3.75 =$
 51. $19.8 \div 2.67 =$ 52. $4.82 \div .0068 =$
53. Decimalize (a) 13s. $8\frac{1}{2}$ d. 54. Change to £ s. d. (a) £.0875
 (b) £17 19s. $3\frac{1}{4}$ d. (b) £3.6725
 (c) £68 17s. 6d. (c) £4.5687

The answers to the exercises are on page 190.

LESSON THREE

WEIGHTS AND MEASURES

THE unit of weight is the pound (lb.). 1 lb. = 16 ounces (oz.). Below, the ounce we weigh in $\frac{1}{2}$ oz. and $\frac{1}{4}$ oz. 14 lb. = 1 stone. 28 lb. = 1 quarter (i.e. quarter hundredweight). 112 lb. = 1 hundredweight (cwt.). 20 cwt. = 1 ton = 2240 lb.

To change lb. to oz. we multiply by 16; to change oz. to lb. we divide by 16. To change cwt. to lb. we multiply by 112; to change lb. to cwt. we divide by 112. To change tons to cwt. we multiply by 20; to change cwt. to tons we divide by 20.

	36 lb.	
19 lb. 12 oz.	16) 586 oz.	18 cwt. 56 lb.
16	48	112
—	—	—
190	106	1800
114	96	180
12	—	36
—	10 oz.	56
316 oz.	—	—
—	586 oz. = 36 lb. 10 oz.	2072 lb.

Length

The unit of length is the yard = 3 feet = 36 inches. Cloth lengths are measured in yards, half and quarter yards. Heights are measured in feet and inches. Distances are measured in miles, half and quarter miles, and in furlongs (eighths of miles). 1 mile = 1760 yards = 5280 feet. 1 chain = 22 yards. 10 chains = 1 furlong = 220 yards.

18 yd. 2 ft.	12) 486 in.	3 miles = 1760 × 3 yd.
3	—	= 5280 yd.
—	3) 40 ft. 6 in.	$\frac{1}{2}$ mile = 880 yd.
56 ft.	—	$\frac{1}{4}$ mile = 440 yd.
12	13 yd. 1 ft. 6 in.	—
—	—	3 $\frac{3}{4}$ miles = 6600 yd.
672 in.	486 in. = 13 yd. 1 ft. 6 in.	—

Liquid Measure

The unit is the gallon. 1 gallon = 4 quarts = 8 pints. 1 cubic foot = 6 $\frac{1}{4}$ gallons. A gallon of water weighs 10 lb. A cubic foot of water weighs 62 $\frac{1}{2}$ lb. = 1000 ounces. To change cubic feet to gallons we multiply by 6 $\frac{1}{4}$.

56 cu. ft.	100 gal. = 100 ÷ 6 $\frac{1}{4}$	1000 cu. ft. water weighs
6 $\frac{1}{4}$	= 100 × $\frac{4}{25}$	62 $\frac{1}{2}$ × 1000 = 62,500 lb.
—	= 16 cu. ft.	= $\frac{62500}{2240}$ tons
336 + 14 = 350 gal.		= nearly 28 tons.

Dry Measure

For measuring peas, beans, etc. A peck = 2 gallons. A bushel = 4 pecks = 8 gallons.

Prices by Practice

Find the cost of 364 at £3 15s. 6d. each.

364 at £1 cost . . .	£364	os.	od.
at £3 . . .	1092	os.	od.
at 10s. . . .	182	os.	od.
at 5s.	91	os.	od.
at 6d. ($\frac{1}{10}$ of 5s.) .	9	2s.	od.
	1374	2s.	od.

1. The example above shows the method of finding prices by practice. This method is used when the shillings and pence can be divided into convenient fractions of a pound. Thus 12s. 6d. = 10s. + 2s. 6d. = £ $\frac{1}{2}$ + £ $\frac{3}{8}$, or £ $\frac{1}{3}$ + $\frac{1}{4}$ of 10s. 6s. 8d. = £ $\frac{1}{3}$. 14s. = 10s. + 4s. = £ $\frac{1}{2}$ + £ $\frac{1}{5}$. 7s. = 5s. + 2s. = £ $\frac{1}{4}$ + £ $\frac{1}{10}$. 5s. 10d. = £ $\frac{1}{4}$ + $\frac{1}{5}$ of 5s.

2. Practice is sometimes done by subtraction as in the example below. 19s. 11d. = £1 - 1d. 9s. 6d. = 10s. - 6d. 17s. 6d. = £1 - 2s. 6d. (= £ $\frac{1}{8}$). 10 $\frac{1}{2}$ d. = 1s. - 1 $\frac{1}{2}$ d. ($\frac{1}{8}$ of shilling).

Find the cost of 196 at 19s. 6d. each.

196 at £1 cost . . .	£196	os.	od.
6d.	4	18s.	od.
	£191	2s.	od.

3. The example below shows the method of finding the cost of pounds and ounces at various prices per pound, and for finding the cost of tons, hundredweights and pounds. The method can readily be extended to yards of material, gallons, quarts, pints, and other measures.

3 lb. 9 oz. at 4s. 6d. per lb.

1 lb costs . . .	4s.	6d.
3 lb.	13s.	6d.
8 oz.	2s.	3d.
1 oz.	3 $\frac{3}{8}$ d.	
	16s.	0 $\frac{1}{4}$ d.

1 ton 9 cwt. 84 lb. at £2 18s. per ton.

1 ton costs . . .	£2	18s.	od.
5 cwt.	14s.	6d.	
4 cwt. ($\frac{1}{5}$ ton) .	11s.	7 $\frac{1}{2}$ d.	
56 lb. ($\frac{1}{8}$ of 4 cwt.)	1s.	5 $\frac{1}{4}$ d.	
28 lb.		8 $\frac{1}{2}$ d.	
	£4	6s.	3d.

Prices per Dozen, etc.

1. 1*d.* each = 1*s.* per dozen. Hence any number of pence each = same number of shillings per dozen. $\frac{1}{2}$ *d.* each = 6*d.* per dozen. $\frac{1}{4}$ *d.* each = 3*d.* per dozen. $\frac{3}{4}$ *d.* each = 9*d.* per dozen. Hence 6 $\frac{1}{2}$ *d.* each = 6*s.* 6*d.* per dozen; 11 $\frac{3}{4}$ *d.* each = 11*s.* 9*d.* per dozen; 1*s.* 3 $\frac{1}{4}$ *d.* each = 15*s.* 3*d.* per dozen.

2. 1*d.* per dozen = 1*s.* per gross. Hence we can use the same method for finding the price of a gross. Also 1*d.* each = 1*s.* per dozen = 12*s.* per gross. 2 $\frac{1}{2}$ *d.* each = 2*s.* 6*d.* per dozen = 30*s.* per gross. 7 $\frac{3}{4}$ *d.* each = 7*s.* 9*d.* per dozen = 93*s.* per gross. 11 $\frac{1}{4}$ *d.* each = 11*s.* 3*d.* per dozen = 135*s.* per gross.

3. 1*s.* each = £1 per score. Hence any number of shillings each = the same number of pounds per score. 3*s.* each = £3 per score. 2*s.* 6*d.* each = £2 10*s.* per score. 4*s.* 3*d.* each = £4 5*s.* per score. 9*s.* 9*d.* each = £9 15*s.* per score.

4. 1000 farthings = £1 0*s.* 10*d.* Hence $\frac{1}{4}$ *d.* each is a little more than £1 per thousand. 2 $\frac{3}{4}$ *d.* each = about £11 per thousand. 6 $\frac{1}{4}$ *d.* each = about £25 per thousand. When we want to give the price exactly we add 10*d.* for each farthing. The cost of 1000 at 3 $\frac{3}{4}$ *d.* each = £15 + 150*d.* = £15 12*s.* 6*d.*

5. It is sometimes useful to be able to change gross into thousands. $144 \times 7 = 1008$, so that 7 gross is a close approximation to a thousand.

SELF-TESTING EXERCISES

1. 37 lb. 8 oz. = oz.
2. 1964 oz. = lb.
3. 36 $\frac{1}{2}$ cwt. = lb.
4. 9640 lb. = cwt.
5. 45 $\frac{3}{4}$ tons = cwt.
6. 346 cwt. = tons.
7. 48 yd. 1 ft. 6 in. = in.
8. 983 in. = yd.
9. 5 $\frac{3}{4}$ miles = yd.
10. 190 cu. ft. = gallons.
11. 570 gallons = cu. ft.
12. 150 pt. = gallons.
13. What is the weight of 2750 cu. ft. of water?
14. 750 at 3*s.* 6*d.* each.
15. 150 at £1 8*s.* 6*d.* each.
16. 820 at £4 9*s.* each.
17. 360 at 9*s.* 9*d.* each.
18. 450 at £1 19*s.* each.
19. 4 lb. 14 oz. at 3*s.* 6*d.* per lb.
20. 2 tons 14 cwt. 28 lb. at £3 5*s.* per ton.
21. 1 doz. at 2 $\frac{3}{4}$ *d.* each.
22. 1 doz. at 1*s.* 3 $\frac{1}{2}$ *d.* each.
23. 1 gross at 1 $\frac{3}{4}$ *d.* each.
24. 1 score at 2*s.* 9*d.* each.
25. 1000 at 2 $\frac{1}{2}$ *d.* each.
26. 1000 at 9*d.* each.
27. 35 gross = thousands.
28. 10,000 = gross.

The answers to the exercises are on page 190.

LESSON FOUR**PERCENTAGES, DISCOUNTS AND COMMISSION****Percentages**

1. Per cent means per hundred. 5 per cent is 5 per hundred, 5 out of each hundred, or $\frac{5}{100}$. We can find percentages in several ways; we choose whichever happens to be most convenient. (a) We can turn the percentage into a fraction. Thus 10% (10 per cent) = $\frac{10}{100} = \frac{1}{10}$; to find 10% we can divide by 10. $12\frac{1}{2}\% = \frac{12\frac{1}{2}}{100} = \frac{1}{8}$; to find 12 $\frac{1}{2}$ % we can divide by 8. (b) We

can turn the percentage into a decimal. $6\% = \frac{6}{100} = 0.06$; $12\% = 0.12$; $\frac{1}{2}\% = \frac{1}{2}$ of $1\% = \frac{1}{2}$ of $0.01 = 0.005$; $\frac{1}{4}\% = 0.0025$; $\frac{3}{4}\% = 0.0075$; $2\frac{3}{4}\% = 0.0275$. We then multiply by the decimal. (c) We can divide by 100 (move the decimal point two places to the left); and then multiply by the percentage. 7% of $480 = 4.8 \times 7 = 33.6$.

2. Before finding a percentage of a sum of money it is often convenient to decimalize the money.

3. To find what percentage one quantity is of another: (a) We can write it as a fraction, change to a decimal, and then read it off as a percentage; (b) we can write the fraction, multiply the numerator by 100, and then divide numerator by denominator.

To find $7\frac{1}{2}\%$ of £164.

(a) $7\frac{1}{2}\% = \frac{3}{40}$. £164 $\times \frac{3}{40} =$ £12.3 = £12 6s.

(b) £164 $\times 0.075 =$ £164

0.075

11.48

820

£12.300 = £12 6s.

(c) £1.64 $\times 7\frac{1}{2} =$ £1.64

7 $\frac{1}{2}$

11.48

82

£12.30 = £12 6s.

$20\% = \frac{1}{5} = .2 = 4s. \text{ in } £1$

$10\% = \frac{1}{10} = .1 = 2s. \text{ in } £1$

$5\% = \frac{1}{20} = .05 = 1s. \text{ in } £1$

$2\frac{1}{2}\% = \frac{1}{40} = .025 = 6d. \text{ in } £1$

$1\frac{1}{4}\% = \frac{1}{80} = .0125 = 3d. \text{ in } £1$

$50\% = \frac{1}{2} = .5 = 10s. \text{ in } £1$

$25\% = \frac{1}{4} = .25 = 5s. \text{ in } £1$

$12\frac{1}{2}\% = \frac{1}{8} = .125 = 2s. 6d. \text{ in } £1$

$6\frac{1}{4}\% = \frac{1}{16} = .0625 = 1s. 3d. \text{ in } £1$

$33\frac{1}{3}\% = \frac{1}{3} = .333 = 6s. 8d. \text{ in } £1$

$66\frac{2}{3}\% = \frac{2}{3} = .667 = 13s. 4d. \text{ in } £1$

$16\frac{2}{3}\% = \frac{1}{6} = .167 = 3s. 4d. \text{ in } £1$

$8\% = \frac{2}{25} = .08$

$4\% = \frac{1}{25} = .04$

$2\% = \frac{1}{50} = .02$

$1\% = \frac{1}{100} = .01$

Discount

1. Discounts are often reckoned as so much per cent. We find the discount by any of the methods suggested for percentages. $2\frac{1}{2}\%$ discount = $\frac{2\frac{1}{2}}{100} = \frac{1}{40}$. To find $2\frac{1}{2}\%$ discount we divide by 40.

2. When two discounts are allowed we deduct the first discount and then deduct the second discount from what remains. Thus 10% may be allowed for payment by the end of the month and $2\frac{1}{2}\%$ for cash. On an account of £37 10s. = £37.5, we deduct £3.75 for 10% = £33.75. From this we deduct $2\frac{1}{2}\%$ = £33.75 ÷ 40 = £.84375. The net amount due is £33.75 - £.84375 = £32.90625 = £32 18s. $1\frac{1}{2}$ d.

3. Discounts are sometimes reckoned as so much in the pound. 1s. in the pound = $\frac{1}{20}$. We can find $\frac{1}{20}$ of the amount, or 1s. for each pound, 6d. for 10s., 3d. for 5s. and 9d. for 15s. 6d. in the pound = $\frac{1}{40}$; we can find $\frac{1}{40}$ of the amount, or 6d. in the pound, 3d. for 10s. and so on. 1s. 6d. in the pound = $\frac{3}{40}$, or $\frac{1}{20} + \frac{1}{40}$; we deduct $\frac{1}{20}$ of the account, and then half of this amount. 2s. in the pound = $\frac{1}{10}$, so we deduct $\frac{1}{10}$ of the account. 2s. 6d. in the pound = $\frac{1}{8}$, so we deduct $\frac{1}{8}$ of the account.

10% is allowed on a bill for £37 6s., and $2\frac{1}{2}\%$ for cash. Find the net amount payable at once.

$$£37\ 6s. = £37.3. \quad 10\% = £3.73.$$

$$£37.3 - £3.73 = £33.57.$$

$$2\frac{1}{2}\% \left(\frac{1}{40}\right) \text{ of } £33.57 = £.83925.$$

$$£33.57 - .83925 = £32.73075 = £32\ 14s.\ 7d.$$

Commission

Commission is payment for the services of a salesman. It is reckoned in the same ways as discount. A commission of 5% is $\frac{1}{20}$, so we take $\frac{1}{20}$ of sales, or 1s. for each pound. A commission of $2\frac{1}{2}\%$ is $\frac{1}{40}$, so we take $\frac{1}{40}$ of sales, or 6d. for each pound. 1% is $\frac{1}{100}$ so we take $\frac{1}{100}$ of sales. A commission of a penny in the shilling = $\frac{1}{12}$, so we take a twelfth of sales. Notice that a commission of $\frac{1}{2}\%$ is a half of 1% or $\frac{1}{200}$ of sales, or £1 in £200.

Brokerage

Brokerage is payment for services in buying or selling stock. A usual rate is $\frac{1}{8}$ per £100 stock; that is $£\frac{1}{8}$ or 2s. 6d. per £100 stock. Thus, if £100 stock is quoted at £84 $\frac{3}{4}$, the broker charges £84 $\frac{7}{8}$ for purchases and sells at £84 $\frac{1}{8}$. In each case his payment is the $£\frac{1}{8}$ difference.

Stock is quoted at £95. The actual cost to the purchaser is £95 $\frac{1}{8}$. So £761 would buy $£\frac{761}{95\frac{1}{8}} \times 100 = £800$ stock. £700 of stock, quoted at 78 $\frac{1}{2}$, would bring in $£\frac{700}{78\frac{1}{2}} \times 7 = £54\ 8\ 12s.\ 6d.$

SELF-TESTING EXERCISES

- 5% of £387.
- $2\frac{1}{2}\%$ of £93 10s.
- $12\frac{1}{2}\%$ of £596 15s.
- 4% of £5 12s.
- $3\frac{1}{2}\%$ of £7 6s.
- $1\frac{3}{4}\%$ of £57.
- 1% of 586,700.
- $\frac{3}{4}\%$ of 764,590.
- Increase 18s. 6d. by $12\frac{1}{2}\%$.
- Increase 178,450 by 2%.
- Find the discount and net amount payable: (a) £3 15s., discount 1s. in £1; (b) £9 10s., discount 6d. in £1; (c) £58 9s., discount $12\frac{1}{2}\%$; (d) £94 5s., discount 5%.
- Find the net amount payable: (a) £58 10s., trade discount 10% plus $2\frac{1}{2}\%$ for cash; (b) £87 15s., $12\frac{1}{2}\%$ trade discount plus 5%, plus $2\frac{1}{2}\%$; (c) £486, 15% discount, plus $7\frac{1}{2}\%$, plus $2\frac{1}{2}\%$.

13. Find the commission on (a) £375 sales at 5% ; (b) £3170 sales at 3% ; (c) £945 sales at 1s. 6d. in £1 ; (d) £367 sales at 1d. in 1s. ; (e) £360,000 at $\frac{1}{2}$ %.
14. What is $1\frac{1}{2}$ d. in 1s. as (a) fraction ; (b) decimal ; (c) shillings in £1 ?
15. Stock is quoted at £87. (a) What does the broker charge ? (b) What does he pay out when selling it ?
16. Stock is quoted at £75 $\frac{5}{8}$. What does a purchaser receive when he sells 9 units of the stock ?
17. What does a stockbroker make by buying and then selling £100 stock ?

The answers to the exercises are on page 191.

LESSON FIVE

PROFIT AND LOSS

Profits

1. Profits are reckoned in two ways : as a percentage of the cost price ; as a percentage of the selling price (the turnover). If we want a profit of 30% on turnover we want to be able to find what percentage to add to the cost price. 30% of turnover is profit, so 70% is cost. Cost = $\frac{70}{100}$ of turnover, so turnover is $\frac{100}{70}$ of cost. That is $\frac{10}{7}$, so we add $\frac{3}{7}$ to the cost. This gives a general method : deduct the percentage of profit on turnover from 100 ; divide 100 by this number ; subtract one, and this gives the fraction to be added to cost. For a profit of 25% on turnover we have : $100 - 25 = 75$; $\frac{100}{75} = \frac{4}{3}$; $\frac{4}{3} - 1 = \frac{1}{3}$; so we add a third to cost. Or, divide percentage on turnover by $100 - \text{percentage on turnover}$.

2. To find the percentage of profit we deduct cost from sale price to find profit. We then write the fraction $\frac{\text{profit}}{\text{cost}}$ and multiply by 100 to change

to a percentage. If we want the percentage on turnover we put turnover instead of cost. A house is bought for £950 and sold for £1100. The profit is £150. The percentage of profit is $\frac{150}{950} \times \frac{100}{1} = 15.8\%$ on cost.

What percentage must be added to cost to give 15% on turnover ?

$100 - 15 = 85$. $\frac{150}{85} - 1 = \frac{15}{85} = \frac{3}{17} = \text{about } 18\%$.

Cost price £4 15s. per doz. Selling price 10s. each. What is the profit per cent : (a) on cost ; (b) on turnover ?

£4 15s. = 95s. 95s. per doz. = 95d. each. = 7s. 11d. each.

Profit = 2s. 1d. each.

Profit on cost = $\frac{2s. 1d.}{7s. 11d.} = \frac{25}{77} = \frac{5}{15.4} = .263 = 26.3\%$

Profit on turnover = $\frac{2s. 1d.}{10s.} = \frac{25}{120} = .208 = 20.8\%$,

or $\frac{25}{120} = \frac{2500}{12000} = 20\frac{5}{6}\%$.

Loss

Losses are calculated in the same ways as profits. The difference is that turnover is less than cost.

An increase and decrease of the same rate per cent always results in a loss, C.S.E.—F

no matter in what order they occur. The reason is that the decrease is always reckoned on the larger amount. A rise of 10% increases £100 to £110. A fall of 10% on £110 reduces the amount to £99. A fall of 10% reduces £100 to £90. A rise of 10% raises £90 to £99. We multiply by $\frac{11}{10} \times \frac{9}{10} = \frac{99}{100}$, or by $\frac{9}{10} \times \frac{11}{10} = \frac{99}{100}$.

What is the net gain or loss per cent after the following changes: rise 15%, fall 10%, fall 5%?

$$\frac{115}{100} \times \frac{90}{100} \times \frac{95}{100} = \frac{98325}{100000} = .98325 = 98.325\%.$$

Hence there is a net loss of $100 - 98.325 = 1.675\%$, or $1\frac{27}{40}\%$.

Calculating Profits and Prices

1. Goods are sometimes bought in quantities of hundredweights and sold in pounds. It is useful to have multipliers to change from one kind of price to the other.

£1 per cwt. = 240d. per cwt. = $\frac{240}{112} = 2\frac{1}{2}d.$ per lb. Hence for each £1 per cwt. we reckon $2\frac{1}{2}d.$ per lb., and then take the nearest $\frac{1}{4}d.$, $\frac{1}{2}d.$ or $1d.$

£1 per ton = 240d. per ton = $\frac{240}{20 \times 8} = 1\frac{1}{2}d.$ per stone; 1s. per lb. = $\frac{3}{4}d.$ per oz.

We can always find a multiplier of this kind to suit any particular case.

Find a multiplier to change pounds per ton to pence per lb.

£1 per ton = 240d. per ton = $\frac{240}{2240}d.$ per lb. = $\frac{3}{28}d.$ per lb. = $\frac{3}{7}$ farthing per lb.

2. Goods are bought at £3 10s. per cwt. Find a selling price per lb. to allow a profit of 25% on turnover.

£3 10s. per cwt. = $3\frac{1}{2} \times 2\frac{1}{2}d.$ per lb. = $7\frac{1}{2}d.$ per lb. Add a third to allow a profit of a quarter on turnover. Selling price = 10d. per lb.

3. The cost of manufacturing an article is 8s. 4d. for materials and 6s. 6d. for wages, plus 35% for overhead charges. Find a retail selling price that will allow 2½% on cost to the manufacturer, to the nearest farthing above, 7½% on cost to the wholesale merchant, to the nearest farthing above, and 33⅓% on turnover to the retailer to the nearest penny above.

8s. 4d. + 6s. 6d. = 14s. 10d. = £741667. Add 35% for overheads = £1.00125. Add 2½% = £1.02628 = £1 0s. 6½d. Add 7½% = £1 2s. 0¾d. Add 50% for 33⅓% on turnover = £1 13s. 2d.

4. Goods bought at £1 3s. 4d. per cwt. are sold at 3d. per lb. What is the profit per cent on cost and on turnover?

£1 3s. 4d. (= £1½) per cwt. = $1\frac{1}{2} \times 2\frac{1}{2}d.$ per lb. = $2\frac{1}{2}d.$ per lb. Profit = $\frac{1}{2}d.$ per lb. $\frac{1}{2}d. \div 2\frac{1}{2}d. = \frac{1}{5} = 20\%$ profit on cost. $\frac{1}{2}d. \div 3d. = \frac{1}{6} = 16\frac{2}{3}\%$ profit on turnover.

SELF-TESTING EXERCISES

1. What must be added to cost to give the following percentages of profit on turnover? (a) 25%; (b) 20%; (c) 33⅓%; (d) 12½%; (e) 35%; (f) 50%; (g) 16%; (h) 30%.
2. Cost price 3s. 6d. Find a selling price to give 20% on turnover.
3. Cost price 18s. 6d. per doz. Find a selling price per article to give a profit of 25% on turnover.
4. Cost price £3 10s. per gross. Find a selling price per article to give a profit of 33⅓% on turnover.

5. Cost price £7 5s. per doz. Selling price 10s. 6d. each. Find the profit or loss per cent (a) on cost; (b) on turnover.
6. Find the profit or loss per cent on cost in each of the following cases :
(a) bought £1 8s. 6d. per doz., sold 3s. 6d. each; (b) bought £3 5s. per gross, sold 4½d. each; (c) bought £385, sold £425; (d) bought £1960, sold £1800.
7. What is the net gain or loss per cent after the following changes : fall 5%, rise 20%, fall 8%, rise 16%?
8. At £18 per ton, find a selling price per lb. to allow a profit of 25% on turnover.
9. At £6 10s. per cwt. find a selling price per lb. to allow a profit of 20% on turnover.
10. The cost of manufacturing an article is 14s. 8d. for materials, 19s. 6d. for wages, plus 45% overheads. Find a price to allow a profit of 12½% on cost.
11. Goods bought at £42 per ton are sold at 6d. per lb. What is the profit per cent on turnover?

The answers to the exercises are on page 191.

LESSON SIX

RATIO, PROPORTION, AVERAGES

1. The ratio of a quantity to another of the same kind is the fraction the first is of the second. The ratio of 14s. 6d. to £1 3s. 6d. may be written : 14s. 6d. : £1 3s. 6d. (as 14s. 6d. is to £1 3s. 6d.), or as a fraction $\frac{14s. 6d.}{£1 3s. 6d.}$; the latter form is the more convenient.

$$\frac{14s. 6d.}{£1 3s. 6d.} = \frac{29 \text{ sixpences}}{47 \text{ sixpences}} = \frac{29}{47}$$

2. The fact that a ratio can be written as a fraction shows that we can multiply the terms of the ratio by any number, provided it is the same for both. Thus : $3 : 7 = 1\frac{1}{2} : 3\frac{1}{2} = 6 : 14 = 1 : 2\frac{1}{3}$, etc.

These ratios or fractions are all the same.

The ratio of 63 lb. to 1 cwt. = $\frac{63 \text{ lb.}}{1 \text{ cwt.}} = \frac{63}{112} = \frac{9}{16}$. That is, 63 lb. is $\frac{9}{16}$ of 1 cwt.

3. We may have the ratio of three or more quantities. Thus :

$$18s. : 27s. : 30s. : 45s. = 6 : 9 : 10 : 15 = 3 : 4\frac{1}{2} : 5 : 7\frac{1}{2}$$

$$\text{also } \frac{18s.}{27s.} = \frac{2}{3} = \frac{3}{4\frac{1}{2}}, \quad \frac{27s.}{30s.} = \frac{3}{4} = \frac{4\frac{1}{2}}{5}, \quad \frac{30s.}{45s.} = \frac{2}{3} = \frac{5}{7\frac{1}{2}}$$

$$3 : 4 : 5 = 16 : ? : ?$$

We multiply 3 by $1\frac{1}{3}$, so we have to multiply the other terms by $1\frac{1}{3}$ also.

$$3 : 4 : 5 = 16 : 16\frac{4}{3} : 26\frac{2}{3}$$

Proportion

1. Two sets of quantities are in proportion when, if we multiply one set by any number, we multiply the other set by the same number. The amount

paid for a number of articles is proportional to the number of articles provided the price per article does not change. Two articles cost twice as much as one, three cost three times as much, and so on.

2. There may be different prices for single articles, for dozens, and for gross. In that case we have two, or three, separate proportions.

18 articles cost £3 3s.

∴ 1 article costs £3 3s. ÷ 18 = 3s. 6d.

28 articles cost 3s. 6d. × 28 = £4 18s. and so on.

1000 envelopes cost 8s. 4d.

1 costs $\frac{8s. 4d.}{1000}$

∴ 750 cost 8s. 4d. × $\frac{750}{1000}$ = 8s. 4d. × $\frac{3}{4}$ = 6s. 3d.

3. Two sets of quantities are inversely proportional when if we multiply one set by any number we divide the other set by the same number. The time taken to do a piece of mechanical work is inversely proportional to the number of men employed. Double the number of men and we halve the time. The time taken to consume a store of food (or other material) is inversely proportional to the number of consumers.

6 machines turn out 768 small parts in $7\frac{1}{2}$ hours. How many machines would be needed to turn out 2000 small parts in 10 hours?

1 machine turns out $\frac{768}{6}$ parts in $7\frac{1}{2}$ hours = $\frac{768}{6} \times \frac{1}{7\frac{1}{2}}$ parts in 10 hours. For 2000 parts in 10 hours we need $2000 \div \frac{768}{6} \div \frac{1}{7\frac{1}{2}} = 2000 \times \frac{6}{768} \times \frac{7\frac{1}{2}}{10} = 11\frac{3}{8}$, i.e. 12 machines.

Averages

1. The most important business average is when we equalize a number of prices or times. When finding the average time taken to produce a number of articles we add the times for separate articles, and then divide by the number of articles. That is the general method of finding an average. If several items each take the same time we can multiply instead of adding. Here is an example from costs: 3 articles cost 3s. 6d. each, 4 articles cost 3s. 9d. each, and 5 articles cost 4s. each. The total price is: 3s. 6d. × 3 (= 10s. 6d.) + 3s. 9d. × 4 (= 15s.) + 4s. × 5 (= 20s.) = 45s. 6d.

Number of articles = 3 + 4 + 5 = 12. Average price = 45s. 6d. ÷ 12 = 45½d. = 3s. 9½d.

2. 96 men produce 760 articles in a certain time. 30 other men produce 210 articles in the same time. The average number of articles per man = $\frac{\text{total number of articles}}{\text{total number of men}}$

$$= \frac{760 + 210}{96 + 30} = \frac{970}{126} = 7.7 \text{ articles per man.}$$

3. 48 lb. of tea at 2s. 6d. is mixed with 84 lb. at 1s. 11d. Find a price per lb. that will allow 15% profit on turnover.

$$\frac{2s. 6d. \times 48 + 1s. 11d. \times 84 \times 100}{48 + 84 \times 85} = \frac{28100}{11220} s. = 2s. 6d. \text{ per lb.}$$

Note.—Selling price = cost price × $\frac{100}{85}$.

4. The average of 2 a penny and 3 a penny is not 5 for 2d. as might at first appear. 2 a penny = $\frac{1}{2}$ d. each, 3 a penny = $\frac{1}{3}$ d. each. The average price is therefore $(\frac{1}{2} + \frac{1}{3})d. \div 2 = \frac{5}{6} \div 2 = \frac{5}{12}$ d. each, or 12 for 5d. This

is slightly more than 5 for 2d. ($\frac{5}{12} - \frac{2}{3} = \frac{1}{60}$), so that there would be a loss in selling at 5 for 2d.

In a factory, 8 rooms each have 32 men, 5 have 38 men each, 2 have 45 each, and 1 has 56. What is the average number of men per room?

The total number of men is: $32 \times 8 + 38 \times 5 + 45 \times 2 + 56 = 592$. The number of rooms is $8 + 5 + 2 + 1 = 16$. The average number of men per room is $\frac{592}{16} = 37$.

SELF-TESTING EXERCISES

- Find the following ratios: (a) 9s. 6d. to £1 5s.; (b) 7s. 9d. to £4 13s.; (c) 2 ft. 3 in. to 6 yd.; (d) $3\frac{3}{4}$ cwt. to 1 ton; (e) 84 lb. to 1 cwt.; (f) 3 yd. 1 ft. 6 in. to 6 yd.; (g) 2 qt. 1 pt. to $3\frac{1}{2}$ gal.
- $4 : 6 : 8 = 10 : \quad$
- $3 : 5 : 7 = 20 : \quad$
- 18 toys cost £3 3s. What do 30 of these toys cost?
- Articles are bought at 18s. 6d. per gross. (a) Find the cost of 600; (b) find a selling price per dozen, allowing a profit of 20% on turnover.
- Find the cost of 56 articles when 36 cost £4 5s. 6d.
- 100 letters are found to weigh 7 lb. 13 oz. What should 340 similar letters weigh?
- 40 men can do a piece of work in 28 days. How long should 56 men take?
- A store of food would last 850 men for 45 days. How long would it last 712 men?
- Find the average of: 4 rooms with 48 men each; 7 rooms with 56 men each; and 9 rooms with 63 men each.
- 30 lb. of tea at 2s. 4d. is mixed with 24 lb. at 1s. 10d. Find a price per lb. for the mixture to be sold at a profit of $3\frac{1}{2}$ d. per pound.
- Oranges are sold at 2 a penny, 3 a penny, and 3 for twopence. What is the average price?
- It is found that 18 machines turn out 1920 parts in 9 hours. How many machines should be used for an order of 5,000 parts to be produced in 6 days of $7\frac{1}{2}$ hours?

The answers to the exercises are on page 191.

LESSON SEVEN

SIMPLE AND COMPOUND INTEREST

Simple Interest

1. Interest is calculated at so much per cent, usually per annum. Interest at 3% is £3 per annum on each £100. To find interest at 3% we find $\frac{3}{100}$ of the principal sum, or multiply by 0.03.

£287 15s. = £287.75

Interest on £287.75 for 1 year at 3% = $£287.75 \times .03 = £8.6325 = £8$ 12s. 7d. (ignore fractions of pennies).

Here is another example worked in two slightly different ways:

Interest on £378 10s. for 1 year at $3\frac{1}{2}$ %.

reckon interest on the principal thus increased. We begin by finding the amount and then deduct the principal to find the interest.

Amount of £250 for 1 year at 5% = £250 × 1.05 = £262.5.

This is the principal of the second year.

The amount at the end of 2 years is therefore £250 × 1.05² or £262.5 × 1.05 = £275.625.

The amount for 3 years is £250 × 1.05³ or £275.625 × 1.05 = £289.40625.

2. The general rule is: To find the amount for n years, multiply the principal by $\left(1 + \frac{\text{rate per cent}}{100}\right)^n$. In practice, write the rate per cent as a decimal, add 1; multiply the principal by this number for 1 year; multiply again for the second year, and so on. There is, however, an alternative method which is preferable in cases where the rate per cent can be expressed as a convenient fraction. The following example is worked out in both methods:

Compound interest on £195 for 3 years at 2½%.

£195 *First Method*

1.025

195

3.90

.975

199.875 = principal for 2nd year.

1.025

199.875

3.99750

.99375

204.871875 = principal for 3rd year.

1.025

204.871875

Interest for 3 years

4.097437

= £209.993 — £195

1.024359

= £14.993

209.993671

= £14 19s. 10d.

Alternative Method

2½% = $\frac{1}{40}$

£195

$\frac{1}{40}$ = 4.875

199.875

$\frac{1}{40}$ = 4.9969

204.8719

$\frac{1}{40}$ = 5.1218

209.9937

— 195

14.9937 = Total interest

= £14 19s. 10d.

Hire Purchase

1. When hire purchase prices are being fixed a percentage is added to allow for interest and the added cost of book-keeping. This may be a fixed percentage, or it may vary with the period over which the payments are spread. The price thus increased is spread over the settled number of weekly or monthly payments.

2. 6% is added for weekly payments spread over a year. What should be the weekly payments on goods with a cash price of £75?

£75 × 1.06 = £79.5. £79.5 ÷ 52 = £1 10s. 7d.

3. If an initial payment is made, no additional charge should be made on this. Goods have a cash value of £80. A deposit of £25 is made and the

remainder is to be paid in monthly instalments spread over two years. 8% is charged.

$$\pounds 80 - 25 = \pounds 55. \quad \pounds 55 \times 1.08 = \pounds 59.4. \quad \pounds 59.4 \div 24 = \pounds 2.475 = \pounds 2 \text{ 9s. } 6\text{d.} \\ \text{per month.}$$

Depreciation

In stock-taking a certain amount has to be allowed for wear and tear of machinery. This is usually a fixed percentage of the value of the machinery at the beginning of the year. Where 10% is allowed for depreciation a machine which cost £800 would be valued at $\pounds 800 \times .9 = \pounds 720$ at the end of 1 year; at $\pounds 720 \times .9 = \pounds 648$ at the end of 2 years; at $\pounds 648 \times .9 = \pounds 583.2$ at the end of 3 years; and so on.

The assessed value would never actually reach zero, until the machine was scrapped. The percentage to be allowed for depreciation depends on the nature of the machinery, the quickness with which it wears out, the number of years' service that can be expected from it, and the likelihood of some or all of the machines having to be replaced by improved patterns.

A machine is valued at £650. What is the valuation after 2 years? Allow 10% per annum.

£650	After 1 year it is £585.
.9	After 2 years it is £526.5.
585.0	
.9	
£526.5	

SELF-TESTING EXERCISES

- Find the simple interest for 1 year on: (a) £58 at $2\frac{1}{2}\%$; (b) £768 5s. at 4%; (c) £1867 at $\frac{1}{2}\%$.
- Write the formula for finding simple interest for any number of days.
- Find the interest on the following: (a) £145 for 68 days at 2%; (b) £94 for 249 days at $1\frac{1}{2}\%$; (c) £19 for 17 days at $2\frac{1}{2}\%$.
- Find the compound interest on: (a) £187 for 2 years at $3\frac{1}{2}\%$; (b) £483 for 3 years at 2%.
- What is the weekly payment on goods valued at £80 plus 5% if spread over 18 months?
- A deposit of £35 is made on goods to the value of £110; 6% is charged on the remainder. What is the monthly payment over a period of two years?
- Find the following valuations: (a) £6800 after 2 years, allowing 15% per annum; (b) £9500 after 3 years, allowing $12\frac{1}{2}\%$ per annum; (c) £875 after 4 years, allowing 10% per annum; (d) £5000 after 5 years, allowing 20% per annum.

The answers to the exercises are on page 191.

LESSON EIGHT

PROPORTIONAL DIVISION

Ratio

1. To divide a sum of money in the ratio $2 : 3 : 4$, we divide the sum by $2 + 3 + 4 = 9$, and then find $\frac{2}{9}$, $\frac{3}{9}$ and $\frac{4}{9}$. We have previously seen that $2 : 3 : 4 = \frac{2}{9} : \frac{3}{9} : \frac{4}{9}$ so that this method gives the correct ratio.

2. To divide a sum of money in the ratio $2\frac{1}{2} : 3\frac{1}{3} : 4\frac{1}{2}$, we can change the ratio to a ratio of whole numbers; we multiply by 6. $2\frac{1}{2} : 3\frac{1}{3} : 4\frac{1}{2} = 15 : 20 : 27$. We then proceed as before: $15 + 20 + 27 = 62$. We divide by 62, and find $\frac{15}{62}$, $\frac{20}{62}$ and $\frac{27}{62}$.

3. We sometimes have the ratios disguised. We have to divide a sum of money, for example, so that A gets $\frac{3}{8}$ of B's share, and B gets $\frac{3}{4}$ of C's share. If we give C one share, then B has $\frac{4}{3}$ and A has $\frac{3}{8} \times \frac{4}{3}$. So the proportion is $A : B : C = \frac{3}{8} \times \frac{4}{3} : \frac{4}{3} : 1 = 2 : 3 : 4$. A gets $\frac{2}{9}$, B gets $\frac{3}{9}$, C gets $\frac{4}{9}$.

A gets $\frac{1}{3}$ of B's share, B gets $\frac{1}{3}$ of C's, C gets $\frac{1}{3}$ of D's. The proportion is $D : C : B : A = 1 : \frac{1}{3} : \frac{1}{3} \times \frac{1}{3} : \frac{1}{3} \times \frac{1}{3} \times \frac{1}{3} = 27 : 9 : 3 : 1$. Note the advantage of making the last share 1, and then proceeding to the others, one by one.

(a) Divide £7 in the ratio $3 : 5 : 8$.

$$3 + 5 + 8 = 16. \quad £7 \div 16 = 8s. 9d.$$

$$8s. 9d. \times 3 = 26s. 3d. \quad 8s. 9d. \times 5 = 43s. 9d. \quad 8s. 9d. \times 8 = 70s.$$

$$Check : 26s. 3d. + 43s. 9d. + 70s. = 140s. = £7.$$

(b) Divide £105 between A, B, and C, so that A gets $\frac{2}{3}$ of B's share, and B gets $\frac{4}{5}$ of C's share.

Give C one share. B gets $\frac{5}{4}$. A gets $\frac{2}{3} \times \frac{5}{4} = \frac{5}{6}$.

$$A : B : C = \frac{5}{6} : \frac{5}{4} : 1 = 8 : 12 : 15.$$

$$8 + 12 + 15 = 35. \quad £105 \div 35 = £3. \quad \text{Hence A gets £24, B gets £36, C gets £45.}$$

$$Check : £24 + £36 + £45 = £105.$$

Partnerships

1. Partners invest various sums in a business, and their interests are usually proportional to the sums they invest. A invests £800, B £900, C £1250, D £1750, E £2000. Their interests are in the proportion $A : B : C : D : E = £800 : £900 : £1250 : £1750 : £2000 = 8 : 9 : 12\frac{1}{2} : 17\frac{1}{2} : 20$.

2. One vote on matters of policy, may be allotted to each £100. The total number of votes is $8 + 9 + 12\frac{1}{2} + 17\frac{1}{2} + 20 = 67$, so that any group controlling 34 votes or more would have a controlling interest. Note that the vote of D or E is necessary for a majority.

3. Sometimes a business is divided between two groups of interests, e.g. the editorial and financial interests on a newspaper. In such cases 51% of the investments is enough to give one side, usually the financial side, a controlling interest.

4. Profits are usually divided amongst partners in proportion to their investments. Thus a profit of £1870 might be divided into 67 shares of £27; the remaining £61 being carried forward. A would receive $£27 \times 8 = £216$, B $£27 \times 9 = £243$, C $£27 \times 12\frac{1}{2} = £337\frac{1}{2}$, D $£27 \times 17\frac{1}{2} = £472\frac{1}{2}$, E $£27 \times 20 = £540$.

$$Check : £216 + £243 + £337\frac{1}{2} + £472\frac{1}{2} + £540 + £61 = £1870.$$

Division of Profits

1. Profits can be shared amongst partners in the way already described. When a large capital is held by many investors in units of £1 or £100 it is usual to declare a dividend of so much in the pound or so much per cent. The payments are made on the shares, irrespective of what individual investors may have paid for them. Thus, one investor may have paid £98 each for £100 shares, whilst another has paid £110 each for his shares. If the dividend is 5%, each alike receives £5 on each £100 share he holds.

2. When a dividend is being worked out, the available profit is shared equally amongst the shares. A company with a capital of £250,000 makes a net profit £13,100. The amount per £100 is $\frac{£13,100}{2500} = £5.24$. The directors may decide on an even dividend of 5%, and carry forward the remaining £600.

3. If the shares are £1 shares the amount per share is £.0524 = 1s. 0½d. The dividend would be 1s. per £1 share, which again is 5%.

Example : A company with a capital of £45,000 makes a profit of £6,480. What dividend can be declared ?

$\frac{6,480}{45,000} = 14\frac{2}{5}\%$. Hence a dividend of 14% may be paid, and £180 carried forward.

SELF-TESTING EXERCISES

1. Divide £57 in the ratio 4 : 5 : 9.
2. Divide £8 11s. 6d. in the ratio $1\frac{1}{2} : 1\frac{1}{3} : 1\frac{1}{4}$.
3. Divide £167 10s. between A, B and C. A receives $\frac{3}{4}$ of B's share, and B receives $\frac{2}{3}$ of C's share.
4. A, B, C and D invest in a business £750, £1250, £1300 and £2000. (a) Give the ratio between the investments in its lowest terms; (b) how should a profit of £1113 be shared among the partners?
5. £5635 represents 49% of the capital of a firm. What is the remaining 51%?
6. A, B and C hold 28%, 34%, and 38% of the capital of a business. A's investment is £1,540. (a) Find the investments of B and C; (b) how should a profit of £850 be divided?
7. A, B, C and D have investments in a business in the ratio of 3 : 5 : 8 : 12. C's investment is £2000. (a) What are the investments of A, B and D? (b) How should a profit of £854 be divided?
8. A company with a capital of £240,000 makes a profit of £11,560. (a) What dividend can be declared (to the nearest $\frac{1}{2}\%$ below)? (b) How much is carried forward? (c) How much does a holder of 960 of the £1 shares receive?
9. A company has a capital of £190,000 in £1 shares. It makes a profit of £7800. (a) What is the amount to the nearest penny below that can be paid out per share? (b) How much is carried forward? (c) How much does a holder of 5000 shares receive?

The answers to the exercises are on page 191.

LESSON NINE

BANKRUPTCY, RATES AND TAXES

1. The problems of bankruptcy are very much the same as those of division of profits. Dividends are usually declared as so much in the pound.

2. Claims against the defaulting debtor are examined, and the total of valid claims is found. The assets are found after deducting any necessary charges for auditing, etc. The remainder is then shared amongst the creditors, each receiving the same amount in the pound on the amount due to him. Thus, the total of claims may be £9875, and the available assets £3678. The amount which can be paid out per £1 is :

$$\frac{£3678}{£9875} = £.3724 = 7s. 5d.$$

A dividend of 7s. 5d. is declared.

3. Sometimes part of the debtor's estate is difficult to realize, that is, to exchange for cash. In such cases several dividends may be declared, as money becomes available. The final dividend is paid out when the last of the estate has been realized.

4. When a dividend has been fixed, either an interim dividend or the final dividend, it is a matter of multiplication to find what is due to each debtor. The method of multiplication depends on the amount of the dividend. Sometimes the method of practice is simplest. A dividend of 3s. 6d. in the pound = 2s. $\left(\frac{£1}{10}\right)$; 1s. (half of 2s.) + 6d. (half of 1s.), or 2s. 6d. $\left(\frac{£1}{8}\right)$ + 1s. $\left(\frac{£1}{20}\right)$ or 1s. in £1). The amount due on £73 14s. 6d. would be found as follows :

At £1	.	.	£73	14s.	6d.
At 2s.	.	.	£ 7	7s.	5.4 d.
At 1s.	.	.	£ 3	13s.	8.7 d.
At 6d.	.	.	£ 1	16s.	10.35d.
<hr/>					
			£12	18s.	0.45d.

The amount is £12 18s.

5. If the dividend is not easily split up it is best to decimalize both sums of money. Thus, a dividend of 15s. 10d. = £.79167 ; £73 14s. 6d. = £73.725. Amount due = $73.725 \times .79167 = £58$ 7s. 4d.

6. Still a third method is to construct a table to fit the particular circumstances. Suppose there is a final dividend of 2s. 9 $\frac{3}{4}$ d. = £.140625. On 1s. a twentieth of this is due, i.e. £.00703. We make a table for 1s., 2s., etc., up to 19s. Then we make a table for pounds from £1 to £9, for ten pounds from £10 to £90, and if necessary for hundreds and thousands. To find the amount due on £837 12s., we add the amounts for £800, £30, £7, and 12s.

Rates and Taxes

1. We have the same arithmetical problems connected with rates and

taxes. In fixing a rate the whole amount to be raised is divided by the whole rateable value of the borough or county. In fixing the amount to be paid on a property we multiply the rate by the number of pounds in the rateable value.

2. In calculating the amount of income tax due we deduct from the gross income any allowances (e.g. personal allowance, allowance for dependent children, insurance). Ten per cent is first deducted from "earned income" (wages or salary). The remaining income is taxable, part at a lower rate and any remainder at the full rate.

(a) The rateable value of a borough is £3,675,840. The amount to be raised is £1,360,500.

The rate should be : $\frac{£1,360,500}{3,675,840} = £.3701 = 7s\ 48d.$

The rate is 7s. 5d. to the nearest halfpenny above.

On a house rated at £84 the rate is 7s. 5d. $\times 84$. 7s. 6d. $\times 84 = £8 \frac{3}{8} \times 84 = £31 \frac{1}{2}$. Less 84d. = 7s., this gives £31 3s.

(b) On an earned income of £756 allowances amount to £184. 6s. 6d. is charged on the first £160, and 10s. thereafter. What is the assessment?

£756 less 10% = £680.4. £680.4 - £184 = £496.4.

£160 at 6s. 6d. = £52. £496.4 - £160 = £336.4.

£336.4 at 10s. = £168.2. Total : £52 + £168.2 = £220 4s.

SELF-TESTING EXERCISES

1. A bankrupt firm has debts to the amount of £4760. Assets are £1646. What dividend can be paid per pound (to the nearest penny below)?
2. A bankrupt's assets are realized in three stages : £2300, £1670, £6845. The total debts amount to £18,760. Three dividends are paid, the first two to the nearest sixpence below, and a final dividend. What are they?
3. A dividend of 4s. 9d. in the pound is paid. How much is due on a debt of £187 10s.?
4. Find simple ways of calculating the amounts due when the dividend is : (a) 7s. 9d. in the pound ; (b) 1s. 8d. in the pound ; (c) 4s. 11d. in the pound.
5. Make a table for pounds from £1 to £9, for assessing a dividend of 3s. 8½d. in the pound.
6. The rateable value of a borough is £2,850,000. The amount to be raised is £1,384,000. (a) What rate should be levied? (b) How much is due on business premises assessed at £1,850?
7. A house is assessed at $\frac{2}{3}$ of its annual rental. How much is due on a house rented at £85 when the rates are 9s. 7d. in the pound?
8. On a rateable value of £9,675,360, what does a penny rate bring in?
9. Find the amount due on an earned income of £670. Allowances amount to £170.
10. Find the amount due on an unearned income of £360 (no allowance of 10%). Allowance of £80.

LESSON TEN

STOCKS AND SHARES

1. Money may be invested in a company as either stocks or shares. The difference is that shares are in definite units, usually of £1, £10, or £100; they may be bought and sold only as units. Stock, on the other hand, may be bought and sold in any amounts, the lowest unit being a penny.

2. A clear distinction has to be made between the nominal price of a share (£1 or £100), and the price paid for it. The latter depends on the reputation of the company, and may have little relation to the nominal value.

3. There may be various kinds of shares or stock. The holders of preferred shares have first claims on any profits up to a fixed percentage. The holders of ordinary shares come later in the division of profits; in a poor year they may get nothing at all, but in a good year they have the advantage of a share of a large amount that may be left after fixed claims have been met.

4. We have to remember that it is usual to add $\frac{1}{8}\%$ to the cost of shares; this is the stockbroker's charge; the charge is on the nominal value of the shares irrespective of the actual cost. When he sells out, $\frac{1}{8}\%$ is deducted from the price he receives; this again is the broker's charge.

5. Purchasers often want to know the rate per cent they will receive on their outlay, so that they may know whether an investment is a good one. This applies to cases where the rate of interest is fixed. Thus 3 per cents are quoted at $78\frac{3}{8}\%$. The purchase price is £ $78\frac{1}{2}$ per £100 share. £3 is paid on each share, so that rate per cent is $\frac{3 \times 100}{78\frac{1}{2}} = 3.82\%$.

6. We may want to know whether it is profitable to sell one kind of stock and buy another. The test is the rate per cent that each pays on the money invested. Allowance has to be made for the double brokerage that has to be paid, on the sale, and on the purchase. Is it profitable to sell out of 4 per cents at $94\frac{1}{2}$ to invest in 5 per cents quoted at $119\frac{1}{4}$? £100 stock in the 4 per cents brings in £4 per annum. It is sold for £ $94\frac{3}{8}$. This purchases: $\frac{£94\frac{3}{8} \times 100}{119\frac{3}{8}}$ of stock in the 5 per cents = £79.058. This is stock, so 5% is paid on it, i.e. $\frac{1}{20}$, or £3 19s. The rate of interest is a shilling lower per £100 of stock, so it is not profitable to sell out and re-invest.

7. When a dividend has been announced, and is about to be paid, allowance is made in the price of the stock or shares for the amount of dividend. Sometimes stocks and shares are sold "ex dividend." The dividend then is not included in the sale; it goes to the present holder of the stock or shares. If the sale is "cum dividend," the dividend is included in the sale and the price is accordingly higher.

(a) A man holds 180 one hundred pound shares quoted at $84\frac{1}{2}$. He sells out and invests in stock at $98\frac{1}{4}$. How much stock does he buy?
£ $84\frac{3}{8} \times 180$ is invested in stock.

$$\begin{aligned} \text{Amount of stock} &= \frac{£84\frac{3}{8} \times 180 \times 100}{98\frac{3}{8}} = \frac{£675 \times 180 \times 100}{787} \\ &= £15,438.3736 \\ &= £15,438 \quad 7s. \quad 5d. \end{aligned}$$

(b) £1 shares are quoted at 8s. 10d. What is that equivalent to as a price per £100, to the next $\frac{1}{8}$ below?

$$8s \ 10d. = £.4416$$

$$£.4416 \times 100 = £44.16 = £44\frac{1}{8}.$$

SELF-TESTING EXERCISES

- Shares are quoted at $£78\frac{3}{4}$. (a) What is actually paid for a £100 share? (b) What should be paid for 36 shares? (c) How much would be received for a £100 share? (d) How much would be received for 36 shares? (e) What is the broker's profit on the double transaction?
- A man has 350 one hundred pound shares quoted at $£67\frac{1}{8}$. He sells out and buys stock quoted at $78\frac{3}{8}$. How much stock does he buy?
- A man holds £3600 stock quoted at $95\frac{1}{2}$. He sells out and buys £100 shares quoted at $68\frac{5}{8}$. How much does he now hold in shares?
- £1 shares are quoted at 17s. $2\frac{1}{2}d$. What is that equivalent to as a price per £100 to the nearest $\frac{1}{8}$ above?
- £10 shares are quoted at £8 3s. 6d. What is that equivalent to as a price per £100?
- 3% stock is quoted at $£83\frac{3}{4}$. What is the rate per cent on his investment to a purchaser? (To the nearest 1d. below).
- How much is gained or lost by selling out £5000 $3\frac{1}{2}\%$ shares quoted at $68\frac{3}{4}$, and investing in 3% stock at $59\frac{1}{2}$?
- (a) Which is the better investment: 6% stock at $118\frac{1}{2}$, or 4% stock at $89\frac{1}{2}$? (b) What is the difference per cent?

The answers to the exercises are on page 191.

LESSON ELEVEN

THE METRIC SYSTEM

1. The metric system is a system of weights and measures based on the metre. The metre was intended to be the ten-millionth part of the distance from the equator to the North Pole, measured along the meridian of Paris. This length happens to be a little more than a yard, and the metre may be taken as an arbitrary length a little more than a yard.

2. The metric system is entirely decimal, that is, it goes in tens. It uses two sets of prefixes: (a) deka = 10, a dekametre is 10 metres; hecto = 100, a hectometre = 100 metres; kilo = 1000, a kilometre = 1000 metres; (b) deci = $\frac{1}{10}$, a decimetre = $\frac{1}{10}$ metre; centi = $\frac{1}{100}$, a centimetre = $\frac{1}{100}$ metre; milli = $\frac{1}{1000}$, a millimetre = $\frac{1}{1000}$ metre.

3. Areas are reckoned in square metres, square centimetres, etc. 10,000 square centimetres = 1 square metre, i.e. 100^2 square centimetres. The are is used for land measure. An are is a square dekametre = 100 square metres. Larger areas are reckoned in square kilometres.

4. Volumes are reckoned in litres. 1 litre = 1000 cubic centimetres. Larger volumes are reckoned in cubic metres, and cubic kilometres. Small volumes are reckoned in cubic centimetres.

5. The unit of weight is the gram. A gram is the weight of a cubic centi-

metre of water, so that weight is tied up with length. The gram is so small that for practical purposes the kilogram = 1000 grams, is used.

6. For commercial purposes, the important units are the metre = a little more than a yard, and the kilogram = a little more than two pounds.

Changing Over

1. For commercial purposes we want to be able to change readily from British measure to metric. To change yards to metres we have the ratio : 1 yard = .9144 metre. To change yards to metres we multiply the number of yards by .9144. For the inverse process of changing metres to yards, we divide by .9144; alternatively, and this is a much simpler method, we multiply by 1.0936.

2. To change pounds to kilograms we multiply by .4536; 1 lb. = .4536 kilogram. To change kilograms to pounds we divide by .4536, or multiply by 2.2046; 1 kilogram = 2.2046 lb. We also want a connexion between the ton and the metric ton, which is 1000 kilograms. To change tons to metric tons we multiply by 1.016. To change metric tons to tons we divide by 1.016, or multiply by .9842.

Change 12 lb. 12 oz. to grams and to kilograms.

$$12 \text{ lb. } 12 \text{ oz.} = 12.75 \text{ lb.} \quad 12.75 \times 453.6 = 5783.4 \text{ grams} \\ = 5.7834 \text{ kilograms.}$$

3. All decimal measures can be given as a decimal of one unit. Thus : 8 dekametres, 9 metres, 4 decimetres, 3 millimetres = 89.403 metres. (We write 0 for the missing centimetres.)

4. Below is an example of a table used for converting yards to metres. Similar tables may be used for other conversions.

1 yard = .9144 metre	6 yards = 5.4864
2 " = 1.8288	7 " = 6.4008
3 " = 2.7432	8 " = 7.3152
4 " = 3.6576	9 " = 8.2296
5 " = 4.5720	

$$387 \text{ yards} = 274.32 + 73.152 + 6.4008 = 353.8728 = 353.87 \text{ metres.}$$

Approximate Values

For some purposes it is useful to be able to change quickly from one system of measures to the other. The following approximate equivalents are useful for this purpose.

1 inch = $2\frac{1}{2}$ centimetres	1 foot = $30\frac{1}{2}$ centimetres
1 metre = 3 ft $3\frac{1}{8}$ inch	1 mile = $1\frac{1}{8}$ kilometres
1 kilometre = $\frac{5}{8}$ mile	1 centimetre = $\frac{1}{2}$ inch
1 litre = $1\frac{3}{4}$ pints	1 gallon = $4\frac{1}{2}$ litres
1 kilogram = $2\frac{1}{8}$ lb.	1 pound = .45 kilogram

Decimal Coinage

The money used in metric countries is decimal, like the weights and measures. The United States has a decimal coinage, although the weights and measures differ little from British weights and measures. The unit is the dollar = 10 dimes = 100 cents. In France the unit is the franc = 100 centimes. In Germany the unit is the mark = 100 pfennigs.

The decimal coinage simplifies paper calculations, but not oral calculations such as take place, for example, in shops, and at railway stations.

SELF-TESTING EXERCISES

1. Write the round multiples and submultiples of the gram, and their ratios.
2. Write 3 kilograms 6 grams 9 centigrams: (a) as grams; (b) as kilograms; (c) as centigrams.
3. Find the cost of 6 kilograms 4 hectograms 5 grams, at 4 francs 75 centimes per kilogram.
4. What is the weight of a cubic metre of water: (a) in grams; (b) in kilograms?
5. Change 180 metres to yards.
6. What is the error per cent in taking: (a) 100 yard = $91\frac{1}{2}$ metres; (b) 100 metres = $109\frac{3}{8}$ yards?
7. Change 35 lb. 6 oz. to kilograms.
8. Change 18 kilograms to pounds and ounces.
9. What is the error per cent in taking: 10 kilograms = 22 lb.
10. Change 1 mile to metres (1 yard = .9144 metre).
11. Change 10 tons to metric tons.
12. Complete the following table: 1 kilometre = yd.; 1 hectometre = yd.; 1 dekametre = yd.; 1 metre = 1.0936 yd.; 1 decimetre = yd.; 1 centimetre = yd.
13. Complete the following table: 1 ton = kilograms; 1 cwt. = kilograms; 1 stone = kilograms; 1 lb = .4536 kilograms; 1 oz = kilograms.
14. Find $\frac{5}{8}$ of 6 metres 5 decimetres.
15. Find the following approximate equivalents: (a) 10 miles = kilometres; (b) 10 kilometre = miles; (c) 10 litres = pints; (d) 10 gallons = litres; (e) 10 metres = yd.
16. Use the table given in the lesson to change to metres: (a) 85 yd.; (b) 3094 yd.

The answers to the exercises are on page 192.

LESSON TWELVE

MONEY SYSTEMS

1. We sometimes want to change British prices for materials into foreign prices. The price of dollars may be quoted at 3.86, that is 3.86 dollars are equivalent to £1. We want to change a price of 13s. 6d. per yard into dollars per yard.

13s. 6d. = £.675. $.675 \times 3.86 = 2.6055$ or 2.61 dollars. We decimalize the money and multiply by the rate of exchange in dollars. We can also find:

$$13s. 6d. = \pounds \frac{27}{40} = \frac{27}{40} \times 3.86 = 2.6055 \text{ or } 2.61 \text{ dollars.}$$

2. We may want to change prices per yard into prices per metre. We know that 1 yard = .9144 metre. The rate of exchange may be $235\frac{1}{2}$ francs to the pound.

We decimalize the British money. Multiply by $\cdot 9144$ to change the yards to metres. Multiply by $235\frac{1}{2}$ to change the pounds to francs.

At 3s. 6d. per yard what is the price per metre? 3s. 6d. = £175. $£175 \times \cdot 9144 \times 235\cdot 5 = 37\cdot 68471$ francs per metre. We keep as many decimal places as we need for our purpose. 37·7 francs per metre is usually close enough.

3. To change francs per metre into £ s. d. per yard, we multiply by 1·0936 to change the metres to yards, and divide by the number of francs to the pound.

We will take the same rate of exchange as before, $235\frac{1}{2}$ francs to the pound. At 35 francs 50 centimes per metre, what is the price per yard? $35\cdot 50 \div 1\cdot 0936 \div 235\frac{1}{2} = £165$ per yard = 3s. 3·6d. or 3s. $3\frac{1}{2}$ d. per yard. We use whichever form of the answer happens to be the most convenient for our purpose. If we want the price of a large number of metres it is convenient to use £165 which is an easy form to multiply. 3s. 3·6d. and 3s. $3\frac{1}{2}$ d. are convenient forms for comparing prices.

4. Other decimal coinages are similar to the French coinage, and they may be dealt with in the same way. The following are examples: Norway, Sweden and Denmark — 100 ore = 1 krone; Spain — 100 centimos = 1 peseta; Italy — 100 centissimi = 1 lira; Germany — 100 pfennigs = 1 mark; Holland — 100 cents = 1 guilder; Russia — 100 kopeks = 1 rouble; Greece — 100 centa = 1 drachma; Turkey — 100 piastres = 1 pound (£T = Turkish pound); Japan — 100 sen = 1 yen.

Notice that these so-called decimal coinages are really centesimal; a hundred of the smaller unit make one of the larger unit. This is true also of the dollar = 100 cents. 10 cents are called a dime, but an amount of 45 dollars 3 dimes 8 cents, or 45 dollars 38 cents, is written \$45·38.

Three coinages have 1000 of the lesser unit to one of the larger: Portugal and Brazil—1000 reis = 1 milreis; China—1000 cash = 1 tael. The Indian coinage is 4 pice = 1 anna, 16 annas = 1 rupee.

5. The exchange values of various coinages are usually given in the newspaper on Wednesday and Friday.

6. Paper calculations in the decimal system are straightforward applications of the four rules. Thus:

34 metres 50 cm. at 65 ore per metre. Multiplication shows that the price is 22·425 kroner, or 22·42 kroner. The half ore ignored is insignificant.

$$\begin{array}{r} 34\cdot 5 \\ \quad \cdot 65 \\ \hline 20\cdot 70 \\ 1\cdot 725 \\ \hline 22\cdot 425 \end{array}$$

Examples

- Find multipliers to change prices: (i) from shillings per yard to francs per metre; (ii) from francs per metre to shillings per yard. Exchange rate:

£1 = 214 francs.

(a) 1s. = $\frac{214}{20} = 10\cdot 7$ francs.

1s. per yard = $10\cdot 7 \times \cdot 9144$ francs per metre
= 9·78408 francs per metre.

The multiplier is 9·784.

(b) The multiplier is $\frac{1}{9.784} = .1022$.

Thus : 5s. 9d. per yard = $5.75 \times 9.784 = 56.26$ francs per metre.

98.75 francs per metre = $98.75 \times .1022 = 10.095$ per yard = 10s. 1d. per yard.

2. Find a multiplier to change pounds to rupees. 1 rupee = 1s. $8\frac{1}{2}$ d.

$$\frac{\pounds 1}{1s. 8\frac{1}{2}d.} = \frac{480 \text{ halfpence}}{41 \text{ halfpence}} = 11.71$$

At this rate : $\pounds 18 \text{ } 7s. \text{ } 6d. = 18.375 \times 11.71 = 215.2$ rupees.

SELF-TESTING EXERCISES

- Find multipliers to change : (a) pounds per ton to dollars per short ton (2000 lb.) ; (b) dollars per short ton to pounds per ton. ($\pounds 1 = 4.27$ dollars.)
- Find multipliers to change : (a) shillings per gallon to guilders per litre ; (b) guilders per litre to shillings per gallon. ($\pounds 1 = 48.85$ guilders.)
- Change 9s. 7d. per yard to francs per metre. ($\pounds 1 = 216$ francs.)
- Change 2s. 8d. per gallon to francs per litre. ($\pounds 1 = 225$ francs.)
- Find the cost of 120 metres at 96 francs per metre in $\pounds \text{ } s. \text{ } d.$ ($\pounds 1 = 198$ francs.)
- Find the cost of 8 metres 75 cm. at 460 reis per metre in $\pounds \text{ } s. \text{ } d.$ ($\pounds 1 = 6.725$ milreis.)
- Find the cost of 1000 yards at 1s. 9d. per yard in pesetas. ($\pounds 1 = 185p.$)
- Find a multiplier to change rupees to pounds. (Take a rupee as 1s. $6\frac{1}{2}$ d.)
- Change $1\frac{1}{2}$ d. per mile into francs per kilometre. ($\pounds 1 = 217\frac{1}{2}$ francs.)
- The rate of exchange for kroner is 18.19 (i.e. $\pounds 1 = 18.19$ kroner).
(a) Change $\pounds 7 \text{ } 14s. \text{ } 6d.$ to kroner ; (b) change 385 kroner to $\pounds \text{ } s. \text{ } d.$
- Find the cost of 36.85 kilograms at 37.50 francs per kilogram.
- Find the cost of 36 metres 55 cm. at 1.85 kroner per metre.

The answers to the exercises are on page 192.

LESSON THIRTEEN

BANKER'S DISCOUNT

Bills of Exchange

1. A bill of exchange is a document which makes it possible for a merchant to obtain payment for goods sold, before the time arranged with the debtor for payment.

2. X sells goods to Y, and Y is to pay for them after three months. In order to obtain payment at once, X drafts a bill of exchange for the amount and sends it to Y. Y agrees by writing across the bill "accepted" and signing it.

3. At any time before the bill falls due, X may obtain cash for it from the bank or from a bill discounter. A charge is of course made for the service ; this is the interest on the amount of the bill for the number of days it still has to run. The rate per cent (" the Bank Rate ") charged for discounting bills, varies from time to time.

4. After the date at which a bill is due to be paid it is usual to allow three

"days of grace." Thus a bill nominally due on January 8 is not actually due till January 11. When calculating the amount of discount the days of grace are included. Thus a bill due on September 3 is discounted on July 6. The number of days is $(31 - 6 =) 25$ in July + 31 in August + 3 in September + 3 days of grace = 62 days. Discount is charged for 62 days.

5. The discount calculated in this way is called "banker's discount." "True discount" is calculated on the present worth of the bill; it would make the amount paid by the bank up to the amount of the bill (at the agreed rate per cent) by the time the bill is due. Banker's discount is always used in discounting bills; true discount has no commercial importance.

6. It may be seen that discounting bills merely involves the calculation of simple interest. Thus a bill discounted on March 19 is due on June 12; the amount of the bill is £375 and the discount rate is 3%. The number of days is $(31 - 19 =) 12 + 30 + 31 + 12 + 3$ days of grace = 88 days. Using the rule for calculating simple interest:

discount = $\frac{\text{amount of bill} \times \text{twice rate} \times \text{number of days}}{73,000}$

$$\frac{£375 \times 6 \times 88}{73000} = \frac{£198000}{73000}$$

73,000

$$\begin{array}{r} \text{Add } \frac{1}{8} \quad \cdot 66 \\ \text{Add } \frac{1}{10} \quad \cdot 066 \\ \text{Add } \frac{1}{10} \quad \cdot 0066 \end{array}$$

$$£2 \cdot 7126 = £2 \text{ 14s. } 3d.$$

The discount is £2 14s. 3d., and the merchant receives as payment for his bill £375 - £2 14s. 3d. = £372 5s. 9d. The bank should recover its money plus interest, by the debtor paying in £375 on June 15.

7. The number of days a bill has to run is easily calculated by using a table in which the days are numbered in order: January 1 - 1, January 2 - 2, and so on. February 1 - 32, February 2 - 33, and so on. March 1 - 60, March 2 - 61, and so on through the year. To find the number of days a bill has to run we subtract the number of the present day from the number of the day on which the bill falls due.

Examples



£250

London, Jan. 5, 194-

Four months after date pay to my
order two hundred and fifty pounds for
value received.

To Charles Dixon
Edinburgh

Arthur Brown

Bill of exchange drawn by Arthur Brown on Charles Dixon. Charles Dixon agrees by writing "accepted" across the bill, and signing his name.

1. Arthur Brown discounts the bill for cash on Jan. 8. The discount rate is 4%. (a) On how many days is interest charged? (b) How much does the bank charge? (c) How much does Arthur Brown receive?

(a) 23 days in J. + 28 in F. + 31 in M. + 30 in A. + 6 in M. + 3 days grace = 121 days.

$$(b) \text{ Discount} = \frac{£250 \times 8 \times 121}{73,000}$$

$$= £3 \text{ } 6\text{s. } 3\text{d.}$$

$$(c) £250 - £3 \text{ } 6\text{s. } 3\text{d.} = £246 \text{ } 13\text{s. } 9\text{d.}$$

2. Study the following example which shows the beginning of a table of months.

<i>Jan.</i>		<i>Feb.</i>		<i>Mar.</i>	
Day in	Day in	Day in	Day in	Day in	Day in
Month	Year	Month	Year	Month	Year
1	1	1	32	1	60
2	2	2	33	2	61
3	3	3	34	3	62
4	4	4	35	4	63
5	5	5	36	5	64
	to 31	to 28	to 59	to 31	to 90

SELF-TESTING EXERCISES

- In a table numbering the days from January 1 onwards, what are the numbers of the first days of the months?
- What is the discount on a bill for £425 due in 68 days (including the days of grace)? The discount rate is $3\frac{1}{2}\%$.
- A bill due three months after date, is dated March 14. How many days has it to run on March 21?
- A bill for £365 due three months after date, is dated December 18. It is discounted for cash on December 22; the discount rate is $4\frac{1}{2}\%$.
(a) On what date is the bill legally due? (b) How many days has it still to run when it is discounted? (c) What does the bank charge for discounting the bill? (d) What does the drawer of the bill receive from the bank?
- What is the discount on a bill legally due on August 19, if it is discounted on March 4? The amount of the bill is £747, and the discount rate is $3\frac{1}{2}\%$.
- A bill for £2540 is drawn on May 14, and is due for payment five months after date. It is discounted on May 21 at 4%. How much does the banker pay for the bill?
- Peter Wilkins buys goods to the value of £287 from Alfred James. Alfred James draws a bill for the amount, date February 8, and due three months after date. Draw out the bill and write the acceptance.
- Alfred James discounts the bill on February 14. How much does the banker pay him? Discount rate 3%.
- A bill for £385 is dated December 2, and due for payment six months after date. It is discounted on December 10 at 5%. (a) What is the banker's discount? (b) How much does the drawer receive for the bill?

The answers to the exercises are on page 192.

MEAN DUE DATE

1. A firm may hold a number of bills due at various dates. The discount value of the bills differs from the face value by the interest, in each case, for the period before which it becomes due.

2. It is sometimes desirable to know the average, or mean, date on which the bills become due. That is the date on which it would be equitable to pay all the bills at once, or on which payment should be received for all the bills at once.

3. There may be bills for £200 due in three months, for £500 due in two months, and for £600 due in five months. The interest is proportional to the amount and also to the time. If the rate of interest varies it is also proportional to this. Suppose the interest is $3\frac{1}{2}\%$ in each case, the interest is proportional to $£200 \times 3 + £500 \times 2 + £600 \times 5$, or simply to $2 \times 3 + 5 \times 2 + 6 \times 5 = 46$. The total sum due is proportional $2 + 5 + 6 = 13$, and so the "mean due date" is $46 \div 13 = 3\frac{1}{3}$ months hence.

4. Usually we want the time in days. The method is the same, except that we substitute days for months. Thus on January 1, the following bills are due: £350 on February 5, £800 on February 21, £450 on April 1, £750 on May 4. The number of days, adding the three days of grace in each case, are: 38, 54, 93, 126. To find the mean due date we have: $3.5 \times 38 + 8 \times 54 + 4.5 \times 93 + 7.5 \times 126 = 1928.5$. We divide by $3.5 + 8 + 4.5 + 7.5 = 23.5$. The date is $1928.5 \div 23.5 = 82$ days hence, i.e. March 24. A payment of £2350, the sum total of all the bills, on March 24, would be equal in value to the payment of the various bills as they fall due.

5. We may have to allow for a higher discount rate on bills that are not due for several months. We have to allow for the difference in the discount rate both in adding and dividing. Thus the following bills may be due: £700 in 34 days at $2\frac{3}{4}\%$, £900 in 48 days at 3% , and £850 in 96 days at $3\frac{1}{2}\%$. We have to add $7 \times 34 \times 2\frac{3}{4} + 9 \times 48 \times 3 + 8.5 \times 96 \times 3\frac{1}{2} = 654.5 + 1296 + 2856 = 4806.5$. We have to divide by $7 \times 2\frac{3}{4} + 9 \times 3 + 8.5 \times 3\frac{1}{2} = 19\frac{1}{4} + 27 + 29\frac{3}{4} = 76$. The mean due date is $4806.5 \div 76 = 63$ days hence. A single payment of £700 + £900 + £850 = £2450 on a date 63 days hence is equivalent to the payment of the bills as they fall due, allowing for the differing rates of interest. All times include the three days of grace.

Bills are due on the following dates: March 19, April 17, May 4, June 6; on March 1 how many days has each bill to run? March 19: $19 - 1 + 3 = 21$ days. April 16: $30 + 17 + 3 = 50$ days. May 4: $30 + 30 + 4 + 3 = 67$ days. June 6: $30 + 30 + 31 + 6 + 3 = 100$ days.

The following bills are held on March 8. £360 due on May 9, £150 due on April 23, £240 due on June 26. (Days of grace to be added.) (a) How long has each bill to run? (b) What is the mean due date?

(a) $23 + 30 + 9 + 3 = 65$ days. $23 + 23 + 3 = 49$ days. $23 + 30 + 31 + 26 + 3 = 113$ days.

(b) $3.6 \times 65 = 234$. $1.5 \times 49 = 73.5$. $2.4 \times 113 = 271.2$.

Total: 578.7 . Divide by $3.6 + 1.5 + 2.4 = 7.5$. $578.7 \div 7.5 = 77.2$.

Mean due date is 77 days on from March 8, i.e. May 24.

SELF-TESTING EXERCISES

1. Bills are due on the following dates : July 9, July 26, August 8, October 9. On June 1 how many days has each bill to run ?
2. The following bills are due to be paid : £150 in six months, £147 in five months, £468 in three months, and £350 in two months. What is the mean due date ? Give the date in months and a decimal of a month.
3. On May 1 the following bills are due : £96 on May 7, £235 on May 29, £498 on June 17, £504 on July 9, £170 on August 24. (The days of grace are allowed for in the dates.) (a) Find the number of days each bill has to run ; (b) what is the mean due date ?
4. On August 1 the following bills are due : £175 due in three months, dated July 9 ; £295 due in four months, dated June 26 ; £375 due in six months, dated June 16 ; £400 due in four months, dated May 4. (a) How many days has each bill to run ? (b) What is the mean due date ?
5. On September 1, the following bills are due : £365 due on September 30, discount rate 3% ; £650 due on October 9, discount rate 3% ; £150 due on November 19, discount rate $3\frac{1}{2}\%$; £760 due on December 9, discount rate 4%. (a) How many days has each bill to run ? (b) What is the mean due date ? (Add the three days of grace in each case. Allow for the different discount rates.)
6. On December 1, the following bills are due : Dated August 18, due five months after date, for £380, discount rate $3\frac{1}{2}\%$; dated September 19, due four months after date, for £480, discount rate $3\frac{3}{4}\%$; dated November 4, due six months after date, for £590, discount rate 4% ; dated November 18, due four months after, for £275, discount rate $3\frac{1}{2}\%$. (a) How many days has each bill to run ? (b) How much could be raised by discounting all the bills on December 1 ? (c) What is the mean due date ?
7. On December 1, 1945, the following bills were due : Dated September 18, due in four months, for £175 ; dated September 30, due in four months, for £384 ; dated October 15, due in six months for £300 ; dated November 21, due in five months for £375 ; the discount rate is the same for each bill. (a) How many days has each bill to run ? (b) What is the mean due date ?

The answers to the exercises are on page 192.

LESSON FIFTEEN

AREAS

1. Area is the space covered by a surface. The unit for small measurements is the square inch, that is, the space covered by a square with one inch sides. For small land measurements we use the square foot, e.g. for the area covered by a building. For larger measurements square yards are used.

2. The areas of farms, etc., are measured in acres. One acre = 4840 sq. yd. A quarter acre is called a rood. A square pole or rod is the area covered by a square with sides $5\frac{1}{2}$ yd. A square mile is 640 acres.

3. To find an area we multiply two lengths. The area of a square is the

square of the length of a side. A one-foot square has sides 12 in. long ; its area is $12^2 = 144$ sq. in. Hence 1 sq. ft. = 144 sq. in. 1 sq. yd. = $3^2 = 9$ sq. ft. A square with sides 1 ft. 4 in. has an area of 1 ft. 4 in. \times 1 ft. 4 in. = 16 in. \times 16 in. = 256 sq. in. Or, $1\frac{1}{3} \times 1\frac{1}{3}$ sq. ft. = $\frac{16}{9} = 1\frac{7}{9}$ sq. ft. 256 sq. in. is, of course, the same as $1\frac{7}{9}$ sq. ft. ($\frac{16}{9} \times 144 = 256$).

4. To find the area of an oblong we multiply the length by the breadth. The area of a plot 120 yd. by 25 yd. is 120 yd. \times 25 yd. = 3000 sq. yd. To change this to square poles we divide by the square of $5\frac{1}{2}$ which is $30\frac{1}{4}$. The area is a little over 99 sq. poles.

5. A parallelogram has the same area as an oblong on the same base and with the same height. To find the area multiply the base by the height.

6. A triangle is equal to half the area of a parallelogram on the same base and with the same height. Hence to find the area of a triangle we multiply the base by the perpendicular height and find half this quantity.

There are two other methods of finding the area of a triangle. If we know two sides of the triangle and the angle between them : we look up the sine of the angle in a table of sines. We find the product of the two sides and the sine, and take half this area.

If we know the three sides (a, b, c) : we find the semi-perimeter = $\frac{a+b+c}{2} = s$.

We find $s - a$, $s - b$ and $s - c$. We find the product $s (s - a) (s - b) (s - c)$, and then find the square root.

7. A trapezium is a four-sided figure with two opposite sides parallel, but not equal. To find the area we find the mean of the two parallel sides, and multiply this by the height.

8. To find the area of a circle we begin by finding the area of the square on the radius, and we multiply this by $3\frac{1}{7}$, or 3.142 .

9. A sheet of paper can be wrapped round a cylinder. The area of the curved surface is the same as the area of this oblong : length = circumference of cylinder ; width = height of cylinder. Hence, area of curved surface = circumference \times height.

10. The curved surface of a cone may be divided into narrow approximate triangles. The height of each triangle = slant height of cone ; sum of the bases = circumference of base of cone. Hence to find the area of the curved surface, find $\frac{1}{2} \times$ slant height \times circumference of base.

11. A sphere cut in two through the centre gives two hemispheres each with a circular section. The surface area of the sphere is four times the area of this circle. Hence to find the area of a sphere we find the square on the radius and multiply this area by $4 \times 3\frac{1}{7}$.

12. To find an irregular area we use tracing paper divided into square inches and tenths. Each tenth square = $\frac{1}{100}$ sq. in. Any small square which is more than half counts as one ; if less than half it is discarded.

Examples

1. 1 sq. mile = 1760 \times 1760 sq. yd.

$$= \frac{1760 \times 1760 \text{ acres}}{4840} = 640 \text{ acres.}$$

1 sq. pole = $5\frac{1}{2} \times 5\frac{1}{2}$ sq. yd. = $30\frac{1}{4}$ or $30\frac{1}{4}$ sq. yd.

1 acre = $4840 \div 30\frac{1}{4}$ sq. poles = 160 sq. poles.

2. Find the area of the walls of a room 24 ft. by 18 ft., and 9 ft. 6 in. high ; deduct 15% for door and window. $2(24 + 18) \times 9\frac{1}{2}$ (i.e. total length of walls—twice the length of two neighbouring walls—multiplied by the height) = $19 \times 42 = 798$ sq. ft.
 $\frac{85}{100} \times 798 = 7.98 \times 85 = 678.3$ sq. ft.
3. What is the area of the greatest circle that can be cut from an eight-inch square ? (b) What is the percentage of waste in cutting ?
 (a) Radius of circle = 4 in. Area of circle = $3\frac{1}{2}r^2 = 3\frac{1}{2} \times 4^2 = 3\frac{1}{2} \times 16 = 50\frac{1}{2}$ sq. in.
 (b) Waste = area of square—area of circle = $64 - 50\frac{1}{2} = 13\frac{1}{2}$ sq. in.
 Percentage of waste = $\frac{13\frac{1}{2} \times 100}{64} = 21.4\%$.
4. A courtyard bounded by walls 96 ft. by 160 ft. has a path running round the walls inside. The width of the path is 8 ft. What is its area?
 Inner oblong is $96 - 16 = 80$ ft. by $160 - 16 = 144$ ft. Outer area = $96 \times 160 = 15,360$ sq. ft. Inner area = $80 \times 144 = 11,520$ sq. ft. Area of path = $15,360 - 11,520 = 3,840$ sq. ft.

SELF-TESTING EXERCISES

1. A plot of ground is divided into 10-rod allotments. How many is that to the acre ?
2. A field is oblong in shape ; it has sides 185 yd. and 137 yd. long. Find its area in acres and square yards.
3. A triangular plot has a base 140 ft. long, and vertical height 48 ft. What is its area ?
4. Find the area of the walls of a room $22\frac{1}{2}$ ft. by 17 ft. and 10 ft. high. Deduct 20% for door, windows and fireplace.
5. Find the area of a triangle with two sides 8 in. and 6 in. and the angle between 50° .
6. What is the area of a trapezium with the parallel sides 8 ft. and 6 ft., and 2 ft. 6 in. apart ?
7. (a) Find the curved area of a cylinder 4 in. in diameter and 5 in. high ;
 (b) give the dimensions of a label to just cover the cylinder.
8. (a) What is the area of the largest circle that can be cut from a 5-in. sq. ?
 (b) What is the area of the waste ? (c) What percentage of the square is waste ?
9. Find the area of the curved surface of a cone 18 in. across the base, and 24 in. from the apex to a point on the base.
10. Find the area of a sphere of radius 18 in.
11. Find the area of a road 24 ft. 6 in. across and $1\frac{1}{2}$ miles long. Give the area in acres and square yards.
12. A lawn 85 ft. by 180 ft. has a path 4 ft. wide round it. What is the area of the path ?

The answers to the exercises are on page 192.

LESSON SIXTEEN

VOLUMES

1. A volume is a cubic space. The unit for small volumes is the cubic inch, that is, the space filled by a cube with one inch edges. The volumes of houses are reckoned in cubic feet. Larger units are the cubic yard and cubic mile.

2. The volumes of liquids are reckoned in gallons, quarts and pints.
 $1 \text{ gal.} = 4 \text{ qt.} = 8 \text{ pt.}$ The connexion with the cubic foot is that $1 \text{ cub. ft.} = 6\frac{1}{4} \text{ gal.}$ $1 \text{ gal.} = \frac{4}{25}$ or $\cdot 16 \text{ cub. ft.}$

3. To find a volume we multiply three lengths, or, what is the same thing, an area and a length. The volume of a cube is found by cubing the length of an edge. $1 \text{ ft.} = 12 \text{ in.}$, so $1 \text{ cub. ft.} = 12^3 = 12 \times 12 \times 12 = 1728 \text{ cub. in.}$ $1 \text{ yd.} = 3 \text{ ft.}$, so $1 \text{ cub. yd.} = 3^3 = 27 \text{ cub. ft.}$

4. An oblong block or prism may have three unequal measurements (length, breadth, thickness), or two of the dimensions may be equal. To find the volume we multiply: length \times breadth \times thickness, whether two be equal or not.

5. To find the volume of any other prism we multiply the area of the end by the length. Thus a triangular prism may have a base of 28 ft., a height of 8 ft., and a length of 35 ft. Area of end $= \frac{1}{2} \times 8 \times 28 = 112 \text{ sq. ft.}$ Volume $= 112 \text{ sq. ft.} \times 35 \text{ ft.} = 3920 \text{ cub. ft.}$ or $\frac{1}{2} \times 8 \times 28 \times 35 = 3920 \text{ cub. ft.}$

6. A cylinder may be regarded as a prism with an infinite number of sides. So the volume is: area of end \times length. A cylinder may have a radius of 8 in., and a length of 2 ft. Area of end $= 3\frac{1}{2} \times \text{square on radius} = 3\frac{1}{2} \times 8^2 = 201\frac{1}{2} \text{ sq. in.}$ Volume $= 201\frac{1}{2} \text{ sq. in.} \times 24 \text{ in.} = 4827\frac{3}{4} \text{ cub. in.}$ The $\frac{3}{4} \text{ cub. in.}$ could be discarded.

7. A pyramid has one third of the volume of a prism on the same base. So we find the area of the base, multiply by the vertical height, and then take a third of this volume. A square pyramid with base edges 48 ft., and height 28 ft., has a volume of: $\frac{1}{3} \times 48^2 \times 28 = 21,504 \text{ cub. ft.}$

8. A cone may be regarded as a pyramid with an infinite number of sloping sides, so we find its volume in the same way. We find the area of the base, multiply by the vertical height, and then take a third of this volume. The base is a circle, so the area is $3\frac{1}{2}$ times the square on the radius.

9. A sphere has two-thirds of the volume of a cylinder into which it will just fit. The radius of such a cylinder is the same as that of the sphere; the height of the cylinder is twice the radius. Volume of cylinder $= \text{area of end} \times \text{height} = \pi \times \text{square on radius} \times \text{twice radius} = 2\pi \times \text{cube of radius.}$ Hence the volume of a sphere $= \frac{2}{3} \times 2\pi \times \text{cube of radius} = \frac{4}{3} \times 3\frac{1}{2} \times \text{cube of radius.}$ Notice that the volume of a sphere is twice that of a cone whose base has a diameter equal to that of the sphere and whose height = diameter of sphere. If we have a sphere and cone which just fit into a cylinder: Volume of cone : volume of sphere : volume of cylinder $= 1 : 2 : 3$.

Examples

1. How many gallons are held by a tank 18 ft. long, 14 ft. wide and $5\frac{1}{2}$ ft. deep? What is the weight of the water?

$$\begin{aligned}
 \text{Volume of tank} &= 18 \times 14 \times 5\frac{1}{2} \text{ cub. ft.} \\
 &= 18 \times 14 \times 5\frac{1}{2} \times 6\frac{1}{4} \text{ gal.} \\
 &= 8662\frac{1}{2} \text{ or } 8660 \text{ gal.}
 \end{aligned}$$

1 gal. weighs 10 lb. $8660 \times 10 \div 2240 = 38.7$ tons.

2. A tank 140 ft. long and 68 ft. wide is to hold 260,000 gal. How deep must it be?

Call the depth x

$$\begin{aligned}
 \text{Volume of tank} &= 140 \times 68x \text{ cub. ft.} = 260,000 \text{ gal.} = \\
 &\frac{260,000}{6\frac{1}{4}} \text{ cub. ft.}
 \end{aligned}$$

$$x = \frac{260,000}{6\frac{1}{4} \times 140 \times 68} \text{ ft.} = 4.37 \text{ ft.} = 4 \text{ ft. } 4\frac{1}{2} \text{ in.}$$

3. A cube has a volume of 8000 cub. in. What is the length of an edge?
 We want the cube root of $8000 = 8 \times 1000 = 2^3 \times 10^3$.
 The cube root is $2 \times 10 = 20$. The length is 20 in.

SELF-TESTING EXERCISES

- (a) How many gallons are held by a tank 28 ft. long, 18 ft. wide, and 4 ft. deep? (b) What is the weight of this water?
- Find the weight of a log 3 ft. square and 18 ft. long. The density is 52 lb. per cub. ft.
- A tank is 150 ft. long and 75 ft. wide. How deep must it be to hold 300,000 gal.?
- What is the weight of a triangular prism of metal, base of end 5 in., height 4 in. and length 40 in. Density of metal is 730 lb. per cub. ft.
- A cube has a volume of 3375 cub. in. What is the area of a side?
- A cylinder has a diameter of 4 in. and a height of 8 in. What is its volume?
- A cylinder has a diameter of 6 in. How high must it be to have a volume of 594 cub. in.?
- A square pyramid has a base with sides 28 in. long. Its height is 20 in. What is the volume of the pyramid in cub. ft. and cub. in.?
- An inverted cone has a top 18 in. across, and a vertical depth of 14 in. (a) What is its volume in cub. in.? (b) How many gallons does it hold?

The answers to the exercises are on page 192.

LESSON SEVENTEEN

SQUARE ROOT

Powers of Numbers

1. When we multiply a number by itself any number of times we are said to find various powers of the number. If we take the number 7: 7 is the first power: $7 \times 7 = 49$, is the second power, often called the square of 7; $7 \times 7 \times 7 = 343$ is the third power, often called the cube; $7 \times 7 \times 7 \times 7 = 2401$ is the fourth power, and so on. To find the fifth power of 7 we have to multiply together five 7's, or multiply 2401 by 7.

2. We often use small numbers called *indices* (singular *index*) to represent the powers. Thus 6^3 (the cube or third power of 6) $= 6 \times 6 \times 6 = 216$.

3. Each power of a fraction is less than the next smaller power. $(\frac{3}{4})^2 = \frac{9}{16}$ and this is less than $\frac{3}{4}$. $(\frac{3}{4})^3 = \frac{27}{64}$ is still less. $\cdot 1^2 = \cdot 1 \times \cdot 1 = \cdot 01$; $\cdot 1^3 = \cdot 001$; and so on.

4. In finding the area of a square, square the length of a side. The square of the length is an area.

In finding the volume of a cube we find the cube of the length of an edge. The cube of a length is a volume.

Square Root

1. The inverse process to finding the square of a number is to find the *square root*, that is to find the number which multiplied by itself gives the original number. $5^2 = 25$, so 5 is the square root of 25. $\cdot 02^2 = \cdot 0004$, so $\cdot 02$ is the square root of $\cdot 0004$.

2. We can sometimes find square roots by factorizing a number. Thus: $1764 = 2 \times 2 \times 3 \times 3 \times 7 \times 7$, or $2^2 \times 3^2 \times 7^2$; so the square root is $2 \times 3 \times 7 = 42$, and $42^2 = 1764$.

3. The square root of any number may be found as follows: We shall take 796.8 as an example.

	796.8 (28.22
	4
48	<hr/> 396
	384
	<hr/>
562	12.80
	11.24
	<hr/>
5642	1 5600
	1.1284
	<hr/>
	.4316
	<hr/>

(a) We start at the decimal point and carefully mark off the figures in pairs on each side of the point.

(b) The first period is 7. The highest square below 7 is $2^2 = 4$. We write 2 in the answer and subtract 4.

(c) We bring down the next period 96. We double the number in the answer and write 4 on the left. We now have to find the highest number to write after the 4 and also in the answer so that when we multiply the number on the left (with the number we found, added to it) by this number, the product is not more than 396. 8 is the number. We write 8 after the 4, and also in the answer and we subtract $48 \times 8 = 384$.

(d) We bring down the next two-figure period, 80. We double the number in the answer, $28 \times 2 = 56$, and write 56 on the left. We proceed as before, to find the 2.

(e) The next period is 00, we can go on bringing down as many 00 periods as we like, but we have already got a close enough approximation to the square root. The next figure is 7, so that 28.23 is a better approximation.

(f) We can see how close we are to the square root by observing the remainder. After 28 the remainder 12.8 and 28^2 is 12.8 short of 796.8. 28.2^2 is 1.56 short and 28.22^2 is .4316 short. 28.23^2 is .1329 too much. (In this method we have to imagine all the figures brought down. After the first subtraction the true remainder is 396.8. $20^2 - 400$ is 396.8 short of 796.8).

Examples

1. Find the square root of 2. Then compare your working with that on the next page. How much does the square of 1.4142 differ from 2?

$$\begin{array}{r}
 2 \text{ (1.4142} \\
 1 \\
 \hline
 24 \text{ 1.00} \\
 \text{.96} \\
 \hline
 281 \text{ .0400} \\
 \text{.0281} \\
 \hline
 2824 \text{ .011900} \\
 \text{.011296} \\
 \hline
 28282 \text{ .00060400} \\
 \text{.00056564} \\
 \hline
 \text{.00003836} = (2 - 1.4142^2)
 \end{array}$$

2. The square on the hypotenuse (side AB, opposite the right angle) of a right-angled triangle = sum of squares on the other sides. AB^2 (i.e. the square on AB) = $AC^2 + BC^2$.

AC = 6, BC = 8. Then $AB^2 = AC^2 + BC^2 = 6^2 + 8^2 = 100$. Hence $AB =$

$$\sqrt{100} = 10.$$

3. AB = 13, BC = 12. We want to find AC. $AB^2 = AC^2 + BC^2$, so $AC^2 = AB^2 - BC^2 = 13^2 - 12^2 = 25$. $AC = \sqrt{25} = 5$.

4. The area of a circle is 33 sq. in. $3\frac{1}{7}r^2 = 33$. $r^2 = \frac{7 \times 33}{22} = \frac{7 \times 3}{2} = 10.5$. $r = \sqrt{10.5} = 3.24$ in.

SELF-TESTING EXERCISES

- Find the following: (a) Square of 67; (b) cube of 67; (c) cube of $\frac{4}{5}$; (d) fourth power of $\frac{2}{3}$; (e) fourth power of .2; (f) fifth power of 1.2; (g) tenth power of 2.
- Find the square root of: (a) 149,769; (b) 1000; (c) 3; (d) .0625.
- The area of a square is 500 sq. in. What is the length of a side?
- (a) What is the square of 3.8 in.? (b) What is the cube of 4.7 ft.? (c) What is the cube of 1 ft. 4 in.?
- Draw an equilateral triangle, and the vertical height. One of the sides is 2 in. What is the vertical height?
- The side of a square is 4 in. How long is one of the diagonals?
- An oblong plot is 48 ft. by 120 ft. What is the length of the greatest straight line that can be drawn on it?
- A ladder is 25 ft. long. It is placed against a wall with the foot 8 ft. out from the wall. What is the greatest height to which the ladder reaches on the wall?
- The area of a circle is 40 sq. ft. Find the length of the radius.

The answers to the exercises are on page 192.

LESSON EIGHTEEN

GRAPHS

Pictorial Graphs

1. Graphs have two main uses in business : (a) to give a pictorial record of the progress or decline of some branch of business ; (b) to enable quick approximate estimates to be made.

2. A pictorial graph shows at a glance a statistical record that might otherwise entail the study of a mass of numbers, and facilitates the comparison of results during different periods.

3. We begin with two lines at right angles, as a sort of framework. Measurements begin where the lines meet. Usually on the horizontal line we set out

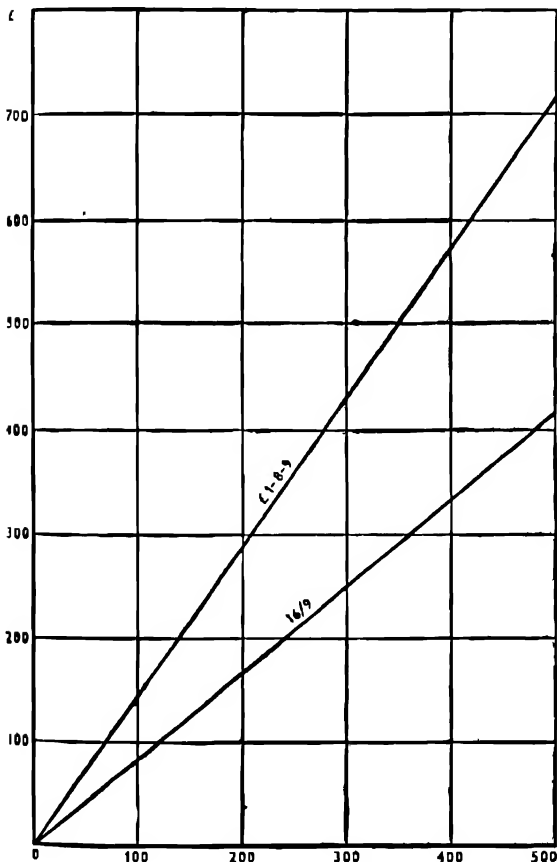


Fig. 5. An example of a calculating graph (as described on the following page), from which the cost of a given number of articles at two prices can be read.

a scale for times. If we want to show twelve months we use the vertical line for the first, and space out the other eleven months evenly so as to fill the available space.

We use the vertical line to set out a scale of sales for example. We have to leave space on the scale for the highest monthly sales that are likely to occur. If sales may reach £5000 in a month, we can place £6000 at the top and divide the space into six equal spaces, each representing £1000. We name them from the bottom upwards : 0, £1000, £2000, etc.

4. We are now in a position to graph the monthly sales as they occur. Say, January £3,600 ; we measure up on the January line the distance which represents £3,600 and put a dot. We show sales for the other months in the same

way, and we join successive dots with thick straight lines. Month by month progress or decline is thus shown graphically.

5. This is one of the simplest forms of business graph. Many other kinds can be devised, as will be seen later in the section on Statistics.

Calculating Graphs

1. These graphs are a kind of ready reckoner. They have the disadvantage of giving approximate results only. Against this there are two great advantages: the information they contain is very readily available; and graphs can be drawn to suit one's requirements exactly. The bigger the scale on which the graph is drawn the more exact will be the information it supplies.

2. A very simple form of graph connects a number of articles with their cost. Along the horizontal line we set off distances proportional to the numbers of articles. If we want to show any number of articles up to 1000, for example, we can set off 10 spaces each to represent 100 articles. On the vertical scale we set off the prices. It is only necessary to make one calculation. Suppose the price is 13s. 9d. each, we find $13s. 9d. \times 1000 = £687\frac{1}{2}$. We set off 7 spaces each to represent £100. We go out to 1000 articles, and up to £687½. We mark this point, and join it by a straight line to the zero point. To find the cost of a number of articles run a finger along to this number, then read the height of the graph at this point. (Fig. 5).

ANSWERS TO EXERCISES

Lesson One

1. 2,187,959. 2. 2,662,661. 3. 2,924,866. 4. 9,990,382. 5. 29,966,089. 6. 4,909,989. 7. 857,433. 8. 5,326,314. 9. 260,260,000. 10. 462,600,996. 11. 470,687,625. 12. 633 + 81R. 13. 53 + 277R. 14. 217 + 770R. 15 (a) 433,000 miles; (b) 430,000 miles. 16. (a) £37 15s. 4d.; (b) £37 15s. 5d.; (c) £37 15s. 4d.; (d) £37 15s. 17. (a) $86\frac{3}{4}$ yd.; (b) 87 yd. 18. (a) 3 figure accuracy, correct to three figures, or correct to two places of decimals; (b) 2 figure accuracy, correct to two figures, or to four places of decimals.

Lesson Two

1. $7\frac{1}{2}$. 2. $7\frac{2}{3}$. 3. 6. 4. $15\frac{11}{18}$. 5. $3\frac{1}{2}$. 6. $3\frac{1}{2}$. 7. $1\frac{1}{10}$. 8. $3\frac{5}{8}$. 9. $4\frac{1}{6}$. 10. $1\frac{11}{14}$. 11. $1\frac{1}{15}$. 12. $4\frac{9}{10}$. 13. $1\frac{2}{3}$. 14. $\frac{7}{8}$. 15. $\frac{7}{8}$. 16. 6. 17. $10\frac{5}{18}$. 18. $\frac{5}{9}$. 19. 28. 20. $2\frac{7}{8}$. 21. $2\frac{1}{18}$. 22. $30\frac{1}{4}$. 23. 2. 24. $2\frac{2}{3}$. 25. $1\frac{1}{2}$. 26. $1\frac{1}{5}$. 27. 9. 28. $1\frac{3}{4}$. 29. 45. 9d. 30. 5s. $6\frac{1}{2}$ d. 31. 2s. 4d. 32. 440. 19. 33. 1807. 20. 34. 28. 361. 35. 95. 905. 36. 564. 441. 37. 800. 641. 38. 390. 54. 39. 3. 555. 40. 46. 853. 41. 12. 725. 42. 38. 7. 43. 87. 5. 44. 19. 060. 45. 3700. 46. 5. 6672. 47. 37. 6476. 48. 81. 228. 49. 1. 5575. 50. 3. 96. 51. 7. 416. 52. 708. 8. 53. (a) £68. 542; (b) £17. 96354; (c) £68. 875. 54. (a) 1s. 9d.; (b) £3 13s. $5\frac{1}{2}$ d.; (c) £4 11s. $4\frac{1}{2}$ d.

Lesson Three

1. 600 oz. 2. 122 lb. 12 oz. 3. 4088 lb. 4. 86 cwt. 8 lb. 5. 915 cwt. 6. 17 tons 6 cwt. 7. 1746 in. 8. 27 yd. 11 in. 9. 10,120 yd. 10. $1187\frac{1}{2}$ gal. 11. $91\frac{1}{2}$ cub. ft. 12. 18 gal. 3 qt. 13. 171,875 lb. = 76.7 tons. 14. £131 5s. 15. £213 15s. 16. £3649. 17. £175 10s. 18. £877 10s. 19. 17s. $0\frac{3}{4}$ d. 20. £8 16s. $3\frac{3}{4}$ d. 21. 2s. 9d. 22. 15s. 6d. 23. 21s. 24. £2 15s. 25. £10 8s 4d. 26. £37 10s. 27. $5000 + 5 \times 8 = 5040$. 28. 70 gross - 80.

Lesson Four

1. £19 7s. 2. £2 6s. 9d. 3. £74 11s. 10½d. 4. 4s. 5¼d. 5. 5s. 1¼d. 6. 19s 11½d.
 7. 5867. 8. 5734·425 or 5734½. 9. 20s. 9¼d. 10. 182,019. 11. (a) £3 15s. —
 3s 9d. = £3 11s. 3d.; (b) £9 10s. — 4s. 9d. = £9 5s. 3d.; (c) £58 9s. —
 £7 6s. 1½d. = £51 2s. 10½d.; (d) £94 5s. — £4 14s. 3d. = £89 10s. 9d. 12. (a)
 £51 6s. 8d.; (b) £71 2s. 5d.; (c) £372 11s. 3½d. 13. (a) £18 15s.; (b) £95 2s.;
 (c) £70 17s. 6d.; (d) £30 11s. 8d.; (e) £1800. 14. (a) ⅓; (b) 125; (c) 2s. 6d.
 15. (a) £87½; (b) £86½. 16. £679 10s. 17. 5s.

Lesson Five

1. (a) ⅓ = 33⅓%; (b) ¼ = 25%; (c) ½ = 50%; (d) ⅔; (e) 53·8%;
 (f) 100%; (g) 19%; (h) 43%. 2. 4s. 4½d. 3. 2s. 0½d. 4. 8¼d. 5. (a)
 13·1% loss; (b) 15·1% loss. 6. (a) 47·4% profit; (b) 17% loss; (c) 10·4%
 profit; (d) 8·2% loss. 7. 21·7% gain. 8. 2¼d. per lb. or 2¾d. per lb.
 9 1s. 5½d. 10. £2 15s. 9d. 11. 25%.

Lesson Six

1. (a) ⅞; (b) ⅓; (c) ⅓; (d) ⅓; (e) ¾; (f) ⅓; (g) ⅝. 2. 10: 15: 20.
 3. 20: 33⅓: 46⅔. 4. £5 5s. 5. (a) £3 17s. 1d.; (b) 1s. 11d. (+⅓d.).
 6. £6 13s. 7. 26 lb. 9 oz. 8. 20 days. 9. 53·7 or 54 days. 10. 57·6 men
 per room. 11. 2s. 5d. 12. ½d. each. 13. 9¾, or 10 machines.

Lesson Seven

1. (a) £1 9s.; (b) £30 14s. 7d.; (c) £9 6s. 8d.
 2. principle × twice rate per cent × number of days
 73,000
 3. (a) 10s. 9d.; (b) 19s. 3d.; (c) 5d. 4. (a) £13 6s. 4d.; (b) £29 11s. 3d.
 5. £1 1s. 7d. 6. £3 6s. 3d. 7. (a) £4913; (b) £6364 5s. 2d.; (c) £574 1s. 9d.;
 (d) £1638 8s.

Lesson Eight

1. £12 13s. 4d., £15 16s. 8d., £28 10s. 2. £3 3s., £2 16s., £2 12s. 6d.
 3. £37 10s., £50, £80. 4. (a) 15: 25: 26: 40, (b) £157½, £262½, £273, £420.
 5. £5865. 6. (a) B: £1870, C: £2090, (b) A £238, B: £289, C: £323.
 7. (a) A: £750, B: £1250, D: £3000; (b) £91½, £152½, £244, £366.
 8. (a) 4½%; (b) £760; (c) £43 4s. 9. (a) 9d.; (b) £675; (c) £187½.

Lesson Nine

1. 6s. 10d. 2. 2s., 2s., 7s. 6d. 3. £44 10s. 7d. 4. (a) 5s. + 2s. 6d. + 3d.
 (— ⅓ of 2s. 6d.); (b) divide by 12, or 1d. in 1s.; (c) 5s. — 1d. 5. £1 —
 3' 8½d., £2 — 7s. 5d., £3 — 11s. 1½d., £4 — 14s. 10d., £5 — 18s. 6½d.,
 £6 — £1 2s. 3d., £7 — £1 5s. 11½d., £8 — £1 9s. 8d., £9 — £1 13s. 4½d.
 6. (a) 9s. 9d.; (b) £901 17s. 6d. 7. £32 11s. 8d. 8. £40,314. 9. £188½.
 10. £112.

Lesson Ten

1. (a) £78 17s. 6d.; (b) £2839½; (c) £78 12s. 6d.; (d) £2830½; (e) £9.
 2. £29872 12s. 2d. 3. £4900. 4. £86½. 5. £81¾. 6. £3 11s. 7d. 7. £2 7s. 2d.
 loss per annum. 8. (a) 6 per cents; (b) 11s. 11d. per cent.

Lesson Eleven

1. 1 kg. = 10 hectog. = 100 dekag. = 1000 gm. 1 mg. = $\frac{1}{10}$ cg. = $\frac{1}{100}$ dg. = $\frac{1}{1000}$ gm. 2. (a) 3006.09 gm.; (b) 3.00609 kg.; (c) 300609 cg. 3. 30.42 fr. 4. (a) $100^3 = 1,000,000$ gm.; (b) 1000 kg. 5. 196.848 yd. 6. (a) .066 of 1%; (b) .04 of 1%. 7. 16.046 kg. 8. 39 lb. 10.9 oz. 9. .21 of 1%, or $\frac{1}{5}$ %. 10. 1609.34 m. 11. 10.16 metric tons. 12. 1 Km = 1093.6 yd. 1 Hm. = 109.36 yd. 1 Dm. = 10.936 yd. 1 dc. = 1.0936 yd. 1 sm. = .010936 yd. 13. 1 ton = 1016 kg. 1 cwt. = 50.8 kg. 1 stone = 6.35 kg. 1 oz. = .0283 kg. 14. 4.0625 m. 15. (a) 16 Km. (b) $6\frac{1}{4}$ miles. (c) $17\frac{1}{2}$ pt., (d) 45 l., (e) 10.9 yd. 16. (a) $73.152 + 4.5720 = 77.724$ m., (b) $2743.2 + 82.296 + 3.6576 = 2829.15$ m.

Lesson Twelve

1. (a) 3.8125, (b) .2623. 2. (a) .533 gn. per l., (b) 1.8zs. per gal. 3. 113.20 fr. per m. 4. 66 fr. per l. 5. £58 3s. $7\frac{1}{2}$ d. 6. 11s. $11\frac{1}{2}$ d. 7. 16,187.5 pesetas. 8. 12.973. 9. .84 fr. 10. (a) 140.52 kr., (b) £21 3s. 3d. 11. 1381.87 fr. 12. 67.62 kr.

Lesson Thirteen

1. J. 1, F. 32, M. 60, A. 91, M. 121, J. 152, J. 182, A. 213, S. 244, O. 274, N. 305, D. 335. 2. £2 15s. 5d. 3. 88 dy. 4. (a) Mar. 21, (b) 89 dy., (c) £4 os. 2d., (d) £360 19s. 10d. 5. £12 os. 8d. 6. £2498 10s. 5d. 7. Signed by Alfred James; accepted by Peter Wilkins. 8. £284 19s. 5d. 9. (a) £9 6s. 9d. (b) £375 13s. 3d.

Lesson Fourteen

1. 41 dy., 58 dy., 71 dy., 133 dy. 2. 3.35 mo. 3. (a) 6 dy., 28 dy., 47 dy., 69 dy., 115 dy., (b) June 26. 4. (a) 72 dy., 89 dy., 140 dy., 37 dy., (b) Oct. 24. 5. (a) 32 dy., 41 dy., 82 dy., 102 dy., (b) Nov. 11. 6. (a) 51 dy., 52 dy., 157 dy., 110 dy., (b) £1707 10s. 6d., (c) Mar. 10. 7. (a) 51 dy., 63 dy., 138 dy., 144 dy., (b) Mar. 14.

Lesson Fifteen

1. 16. 2. 5 ac. 1145 sq. yd. 3. 3360 sq. ft. 4. 632 sq. ft. 5. Sine $50^\circ = .7660$, Area = 18.38 sq. in. 6. $17\frac{1}{2}$ sq. ft. 7. (a) 62.84 sq. in., (b) 12.56 in. by 5 in. 8. (a) 19.04 sq. in., (b) 5.36 sq. in., (c) 21.4%. 9. 678.67 sq. in. 10. 4073 sq. in. = 28.3 sq. ft. 11. 4 ac. 2200 sq. yd. 12. Outside area—inside area = 93 ft. \times 188 ft. — 85 ft. \times 180 ft. = 2184 sq. ft.

Lesson Sixteen

1. (a) 12600 gal., (b) 56.2 tons. 2. 3.8 tons. 3. 4 ft. $3\frac{1}{8}$ in. 4. 168.98 lb. 5. 225 sq. in. 6. $100\frac{1}{2}$ cub. in. 7. 21 in. 8. 3 cub. ft. $42\frac{2}{3}$ cub. in. 9. (a) 1188 cub. in., (b) $4\frac{9}{4}$ gal.

Lesson Seventeen

1. (a) 4489., (b) 300.763., (c) $\frac{84}{125} = .512$, (d) $\frac{18}{11}$, (e) .0016, (f) 2.48832, (g) 1024. 2. (a) 387, (b) 31.623, (c) 1.732, (d) .25. 3. $\sqrt{500} = 22.36$ in. 4. (a) 14.44 sq. in., (b) 103.823 cub. ft., (c) $(1\frac{1}{3} \text{ ft.})^3 = (\frac{4}{3})^3 = \frac{64}{27} = 2\frac{10}{27}$ cub. ft. (16 in.)³ = 4096 cub. in. 5. $\sqrt{3} = 1.732$ in. 6. 5.657 in. 7. 129.24 ft. 8. 23.7 ft. 9. 3.57 ft.

SECTION V

BOOK-KEEPING

LESSON ONE

DOUBLE ENTRY BOOK-KEEPING

BOOK-KEEPING is a method of recording the details of transactions that occur in business. Each transaction has a twofold aspect and the double entry system of book-keeping aims at recording both aspects. Thus, if you purchase some goods and pay cash for them, two things have happened : your purchases have increased and your cash has decreased. Hence if you want a complete record both things must be recorded.

Again, if you sell goods to Brown on credit, that is, Brown agrees to pay for the goods later, two things have happened : Brown becomes your debtor for the amount, and your sales increase. You must therefore write an entry in Brown's account and a corresponding entry in sales account. Later when Brown pays the money he owes, you will put an entry in your cash book and a corresponding entry in Brown's account.

Some small traders formerly kept their books on what is known as the single entry system, that is, they recorded only one aspect of each transaction. Thus, if they purchased goods from Brown on credit, they would make an entry in Brown's account but would not make an entry in purchases account. Such a record is incomplete and although the trader himself may remember additional information, no other person could obtain a complete grasp of his transactions from a study of his books.

Book-keeping, then, records both aspects of each separate transaction, no matter what that transaction is, in an orderly, systematic manner. Once the facts have been recorded, an examination of the books will disclose valuable information. The owner will be able to find his financial position at any moment ; he will be able to find what amount he owes to other people, that is, to his creditors, and what amount other people (his debtors) owe him ; he will be able to find the value of the things he owns—his assets ; he will be able to find what profit or loss he has made during any trading period. In subsequent periods he will be able to use the information to fix the price at which to sell goods in order to make a certain amount of profit.

Learning by Practical Work

In learning to swim it is not necessary to spend hours reading about the different strokes and why one stroke propels you through the water at a faster rate than another. The important thing is to get into the water, to realize that the water will support you, and to practise the strokes. You can concentrate on style and read about the style of good swimmers later on. Similarly the first thing you have to learn is how to record the two-fold aspect of every transaction : that is book-keeping.

In these book-keeping lessons you are going to learn how to keep accounts by doing the work ; the theory has been reduced to a minimum. You will

JOURNAL RULINGS

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The *Journal* paper differs from the ledger and cash book in that it has no debit or credit side.

[illegible]

If you want to show a debit and a credit, you write *debit* at the head of the left-hand money column and *credit* at the head of the right-hand money column.

Date		Particulars	Folio	Debit		Credit	

This paper may be used for the showing of details in the left-hand money column and totals in the other.

<i>Date</i>		<i>Particulars</i>	<i>Folio</i>	<i>Details</i>			<i>Total</i>		

Sometimes a double sheet of journal paper is spread open. The whole of the left-hand page is then the debit side and the right-hand page the credit side. Each side has a details column and a totals column. A balance sheet is written on this paper.

		Details			Total					Details			Total		

Ensuring Accuracy

In order to ensure accuracy it is most important that your writing and figures should be neat. The figures should be written carefully with the units under one another, and the tens and the hundreds similarly in line. One of the chief sources of errors in book-keeping is faulty addition caused by figures not being under one another. Add up the two columns of figures below, and see how much easier it is to do the right-hand example correctly than to do the one on the left.

118	118
	9
84	84
3241	3241

The ruling of totals should be done with a fine nib and preferably in red ink.

Starting a Business : Capital

If Mr. Jones started in business with £100, the capital of the business would be £100. As Mr. Jones has lent that money to the business, the business owes him £100.

If Mr. Brown started a tailor's business with £100 in cash and a sewing machine worth £20, the capital of the business would be £120; namely the value of the two assets which Mr. Brown owned and has lent to the business. So if we look at it from the point of view of the business, the latter has two assets valued at £120 and owes £120 to the owner of the business.

What a business owes to anyone is called a liability of the business; so in this case the business has one liability, namely capital of the value of £120, and two assets, namely cash £100 and a sewing machine valued at £20. So it will be seen that cash is not the same as capital.

Again, if Mr. Smith opens a grocer's shop and has £50 in cash and a second-hand pair of scales worth £5, which his father had given him, his capital is £55. He borrows £20 in cash from his brother-in-law and spends the whole of it in purchasing a second-hand counter and some shelves. Let

us look at it from the point of view of the business. The business owns £50 in cash, scales worth £5, counter and shelves worth £20, in other words its assets are worth £75. Now it owes £20 to the brother-in-law and £55 to Smith for the capital, so its liabilities are £75.

The assets always equal the liabilities. Hence if we know the total assets, in this case £75, and the liabilities other than the capital, in this case, the loan of £20, we find the capital by subtraction, namely £75 - £20 = capital £55.

EXERCISE 1A

Fill in the blanks in the following table :

Firm				Assets			Liabilities			Capital		
				£	s.	d.	£	s.	d.	£	s.	d.
A	.	.	.	120	0	0	30	0	0			
B	.	.	.	180	0	0				150	0	0
C	.	.	.				170	0	0	200	0	0
D	.	.	.	800	0	0	150	0	0			

Mr. Cox decides to set up a business for himself as a greengrocer. He has only £6, so knows it is no use setting up in a shop. He buys a barrow for £4. His capital is £6 and he has two assets, a barrow worth £4 and £2 in cash.

Let us show this as a diagram.

	£	s.	d.
Cash .	2	0	0
Barrow .	4	0	0
Capital	6	0	0

He goes to the market and spends £1 10s. on vegetables. Two things have happened. His cash has been reduced by £1 10s., and his stock of vegetables has increased by £1 10s.

1st Stage				2nd Stage								
	£	s.	d.		£	s.	d.		£	s.	d.	
Cash	2	0	0	—	1	10	0	=		10	0	
Barrow	4	0	0					=	4	0	0	
Vegetables				+	1	10	0	=	1	10	0	
Capital	6	0	0						6	0	0	

He sells all the vegetables for £2 15s. What has happened? His cash

has increased by £2 15s. and his vegetables decreased by £1 10s., and he has made a profit of £1 5s., namely the difference between the cost price of the goods, £1 10s. and the selling price £2 15s. If he does not withdraw any of the money from the business, his capital is increased by this amount.

So we can show it as follows :

1st Stage			2nd Stage			3rd Stage		
	£	s. d.		£	s. d.		£	s. d.
Cash . . .	2	0 0	— I 10 0 =	10	0 0	+ 2 15 0 =	3	5 0
Barrow . . .	4	0 0		4	0 0	=	4	0 0
Vegetables .	—	—	+ I 10 0 =	1	10 0	— I 10 0 =	—	—
Capital . . .	6	0 0	=	6	0 0	+ I 5 0 =	7	5 0

We found the profit by subtracting the cost price of the goods sold from the selling price, but we can find it in another way by comparing the commencing capital with the capital at the close of the trading. His capital at the commencement was £6; his capital at the close is £7 5s. The increase in capital is the profit; £7 5s. — £6 = £1 5s.

Now in book-keeping, in order to avoid using plus signs and minus signs, we arrange all the plus signs on one side of an account and all the minus signs on the other side. Thus Mr. Cox's cash account would look like this :

Cash Book

£	s.	d.	£	s.	d.
2	0	0	1	10	0
2	15	0			

The left-hand side of an account is called the debit side (Dr.) and the right-hand side is called the credit side (Cr.). The difference between the two sides is called the balance of the account. If there is more on the debit side than on the credit side we say there is a debit balance. In Cox's cash account there is a debit balance of £3 5s. (£4 15s. less £1 10s.). If there is more on the credit side of an account than on the debit side we say there is a credit balance. A cash account cannot have a credit balance, since you cannot withdraw from your cash box more cash than you have put in.

Instead of having one account for vegetables, it is customary to have two accounts, one for purchases and one for sales. Purchases are goods bought to resell. The barrow is bought to keep as an asset and is not a purchase; so it has a separate account. Mr. Cox would probably have the following accounts: cash account, fixtures and fittings account, into which he would put the value of the barrow, purchases account, sales account and capital account.

There is no need to work out the profit on each article bought or sold. At the end of the week or month the total of the purchases account is subtracted from the sales account and the balance is the profit gained. If the purchases exceed the sales, that is if the selling price of the goods is less than the purchase price, there has been a loss by which capital will be reduced.

Because Mr. Cox has no shop and pushes the barrow himself he has no expense for rent of shop or for wages. Hence the difference between his purchases and his sales is clear profit. If he had to pay 10s. for rent, then his profit would have been reduced by that amount.

EXERCISE 1B

Fill in the gaps in the following table.

Firm	Capital at Jan. 1			Capital at Dec. 31			Profit or Loss		
	£	s.	d.	£	s.	d.	£	s.	d.
A .	40	0	0	42	0	0			
B .	10	0	0	95	0	0			
C .	200	0	0				Profit ..	20	0 0
D .	180	0	0				Loss ..	30	0 0
E .				80	0	0	Loss ..	20	0 0
F .				110	0	0	Profit ..	20	0 0

EXERCISE 1C

Firm	Assets, Jan. 1			Liabilities, Jan. 1			Capital, Jan. 1
	£	s.	d.	£	s.	d.	
G .	120	0	0	20	0	0	—
	Assets Dec. 31			Liabilities Dec. 31			Capital Dec. 31
	140	0	0	25	0	0	—

Profit or loss on year

EXERCISE 1D

What do you mean by the capital of a business? Is it an asset or a liability of the business? Give a reason to support your answer.

The answers to the exercises are on page 318.

LESSON TWO

PRACTICAL BOOK-KEEPING

WE are now going to work an exercise to find the profit earned during a month and to prepare a balance sheet to show the assets and liabilities at the end of the month.

EXERCISE 2A

July 1 A. Miller started business with capital £20 in cash.

„ 2 He purchased goods for £18.

„ 3 He sold all the goods for £25.

Step 1 is to enter the items in an account for cash. This account is part of the ledger but usually has extra columns and is then printed in a separate book called the cash book. We shall for the present enter ours in the ledger, but it would be better to refer to it as the cash book from the beginning.

BOOK-KEEPING

CASH BOOK

			£	s.	d.				£	s.	d.
July 1	To Bal. capital					July 2	By Purchases	GL 3	18	0	0
	“ “ Sales	GL 1 GL 2	20 25	0 0	0 0	“ 31	“ Balance	c/d	27	0	0
			45	0	0				45	0	0
Aug. 1	To Bal.	b/d	27	0	0						

We have seen that every entry has a twofold aspect. Thus, when we purchase goods, we decrease the cash and alter the amount of purchases. When we sell goods we increase the cash and alter the amount of sales. In the cash book we write for every entry the name of the account that is affected, and when in the second step we post the amount to that account we write down in the folio column in the cash book the number of that account; as for example GL 1 above signifies that we have posted this item to the first account in the general ledger, GL 2 to the second account in the general ledger and so on.

The cash book must be balanced at the end of the month and the balance carried down to the first of the next month. We have £45 on the debit side and £18 on the credit side. So the debit side exceeds the credit side by £27. If we write the balance of £27 on the credit side both sides will total £45. The balance is carried down from the credit side to the debit side. On the credit side write c/d, meaning carried down, in the folio column. On the debit side write b/d, for brought down, in the folio column to show it has been brought down.

Step 2 is to post the items in the cash book to the other account affected by the transaction. Now for a reason that will become clear later, the corresponding entry is placed on the opposite side of the account. Thus if it is on the debit side of cash book it is posted to the credit side of an account in the ledger; if it is on the credit side of cash book it is posted to the debit side of the ledger account.

GENERAL LEDGER

Capital Account GL 1											
			£	s.	d.				£	s.	d.
						July 1	By Cash	CB	20	0	0
Sales Account GL 2											
			£	s.	d.				£	s.	d.
						July 3	By Cash	CB	25	0	0
Purchases Account GL 3											
			£	s.	d.				£	s.	d.
July 2	To Cash	CB	18	0	0						

Later we shall have accounts for debtors and creditors and these will be in special ledgers for debtors and creditors. All other ledger accounts are in the general ledger.

Step 3 is to take out a trial balance to ensure that the posting has been correct. A trial balance is a list of the ledger and cash balances. It is written on journal paper.

Trial Balance of Exercise 2A

		£	s.	d.	£	s.	d.
Capital $\frac{q}{c}$	. . . . . GL 1				20	0	0
Sales $\frac{q}{c}$	. . . . . GL 2				25	0	0
Purchases $\frac{q}{c}$	. . . . . GL 3	18	0	0			
Cash balance	. . . . . CB	27	0	0			
		45	0	0	45	0	0

There is nothing mysterious about how a trial balance works; for every debit entry in the cash book has a corresponding entry in the ledger. Since the cash book is an account in the ledger, the total of the debit entries in the ledger must equal the total of the credit entries. Similarly, every credit entry in the cash book has a corresponding entry in the debit of a ledger account. If instead of writing the balance as is customary, we put down the totals written in each account, we can compare the debits and credits more readily.

		£	s.	d.	£	s.	d.
Capital $\frac{q}{c}$	. . . . . GL 1				20	0	0
Sales $\frac{q}{c}$	. . . . . GL 2				25	0	0
Purchases $\frac{q}{c}$	. . . . . GL 3	18	0	0			
Cash book	. . . . . CB	45	0	0	18	0	0
		63	0	0	63	0	0

The £45 on the debit of cash book equals the £20 plus the £25 on the credit of capital and sales accounts; and the £18 on the credit of cash book equals the £18 on the debit of purchases account. Consequently, if the posting has been done correctly, both sides of the trial balance should agree. The first form of trial balance, in which only the balance for each account is given, is the usual method.

If the entries in the debit of cash book were posted to the debit side of ledger accounts and the credit to the credit, it would not be possible to take out a trial balance. Try this in the above example.

Step 4 is to make a trading account to find what gross profit has been made during the month. The purchases are shown on the debit side, and the sales on the credit. These are transferred from the purchases and sales accounts. A special note of the transfer is usually made in the journal and

this is known as a journal entry. The letter J for journal is written in the folio columns. We shall not for the present trouble with the journal entry but will put J in the folio columns to remind us that it is a transfer from one account to another.

Trading Account for Month ended July 31.

				£	s.	d.					£	s.	d.
To Cost of goods Sold :							By Sales	J			25	0	0
Purchases	J			18	0	0							
„ Balance :				7	0	0							
Gross Profit				25	0	0					25	0	0

Step 5 is to balance the ledger accounts and to add the profit to the capital account. The three accounts are shown below as they will appear after this has been done.

GENERAL LEDGER

Capital Account GL 1

				£	s.	d.					£	s.	d.
July 31	To Balance	c/d		27	0	0	July 1	By Balance	CB		20	0	0
							„ 31	„ P & L %	J		7	0	0
				27	0	0					27	0	0
							Aug. 1	By Balance	b/d		27	0	0

Sales Account GL 1

				£	s.	d.					£	s.	d.
July 31	To Transfer to Trading %	J		25	0	0	July 2	By Cash %	CB		25	0	0
				25	0	0					25	0	0

Purchases Account GL 3

				£	s.	d.					£	s.	d.
July 2	To Cash	CB		18	0	0	July 31	By Trading %	J		18	0	0
				18	0	0					18	0	0

Step 6 is to make a balance sheet to show the assets and liabilities at the end of the month. This is not an account and does not have "To" and

"By" as do all accounts. It is not part of the ledger and is merely a list of the ledger and cash balances which have not been used to find the profit. It is written on journal paper spread open so that there are two columns on the debit side and two on the credit side.

Balance Sheet as on July 31, 194..

Liabilities						Assets							
	£	s.	d.	£	s.	d.		£	s.	d.	£	s.	d.
Capital :													
Balance July 1	20	0	0				Cash in Hand				27	0	0
Add profit	7	0	0	27	0	0							
				27	0	0					27	0	0

Now work Exercises 2B and 2C in the same way.

EXERCISE 2B

		£	s.	d.
Jan. 1	N. Hudson started business with capital in cash	100	0	0
" 4	He purchased goods	80	0	0
" 5	He sold the goods for cash	115	0	0

EXERCISE 2C

		£	s.	d.
Feb. 1	B. Lester started business with cash	50	0	0
" 5	He bought goods	40	0	0
" 8	Cash sales	60	0	0
" 9	Purchases	50	0	0
" 10	Sold goods	50	0	0
" 12	Sold remainder of goods for	45	0	0

Trading Expenses

Exercises 2D and 2E introduce two items of expense, wages and carriage on purchases, which will reduce the amount of gross profit. They will be shown with the purchases on the debit side of the trading account, because they are payments made to put the goods in a saleable condition.

Thus suppose we buy a chest of tea for £10, and when it arrives we have to pay £1 carriage on our purchase, the total cost of the tea is £11. If next period we ask the tea merchant to send it carriage paid, instead of carriage forward, he will do so, but will charge us £11 and not £10. Similarly if we have to pay a man £1 to weigh it into ½lb. packets the total cost of the tea when ready to sell is £12. If we ask the tea merchant to send it carriage paid and packed in ½lb. packages he will charge us not £10 but about £12.

So in order that we can compare the cost of the purchases from period to

period we always add the carriage in and the wages to the purchases in the trading account. Otherwise one period when the goods are carriage paid and ready for sale, we should say they cost £12; and the next period when they come carriage forward and in bulk, we should say the same amount of purchases cost £10, and there would be no real basis for comparing the gross profits made.

EXERCISE 2D

		£	s.	d.
March 1	R. Riley started business with £40 as capital			
" 3	He bought goods	35	0	0
" 5	Cash sales	25	0	0
" 8	Purchased goods	20	0	0
" 10	Cash sales	15	0	0
" 12	Paid wages to prepare the goods for sale .	10	0	0
" 20	Sold remainder of goods for	34	0	0

Note that the wages are posted from cash book to the debit of wages account. This appears in the trial balance and on the debit of trading account.

EXERCISE 2E

		£	s.	d.
April 1	H. Hayter started business with £100 as capital			
" 5	He bought goods	85	0	0
" 6	He paid carriage on the goods	2	0	0
" 10	He sold goods	60	0	0
" 15	He sold the remaining goods for . . .	45	0	0
" 20	He paid wages to prepare the goods for sale .	5	0	0

Note that carriage is posted from the cash book to the debit of carriage inwards account. It appears in the trial balance and on the debit side of trading accounts.

Profit and Loss Account

Exercise 2F introduces expenses connected with the selling and distribution of the goods. These have no connexion with putting the goods in a condition for sale and so do not appear in the trading account. Instead the gross profit in the trading account is carried down to the credit of the profit and loss account. The expenses are shown on the debit side and the balance is the net profit or loss for the period; this is the actual profit or loss made and is added to or taken from the capital account of the sole trader.

In the following exercise, note that the rent and sundry expenses are posted from cash to rent account and sundry expenses account. These appear in the trial balance but not in the trading account. The balance of trading account is taken down to the credit of a profit and loss account and these items appear in the debit of that account.

EXERCISE 2F

		£	s.	d.
Aug. 1	A. Scott commences business with capital in cash	50	0	0
" 2	Cash purchases	40	0	0
" 3	Paid carriage on purchases	2	0	0
" 14	Sold all the goods for	65	0	0
" 16	Paid wages to prepare the goods for sale	5	0	0
" 18	Paid rent	5	0	0
" 20	Paid sundry expenses	1	0	0

A. SCOTT

Trading and Profit and Loss Account
for period ended August 31, 194..

	£	s.	d.	£	s.	d.		£	s.	d.	£	s.	d.
To Cost of goods							By Sales				65	0	0
Sold :													
Purchases	40	0	0										
Carriage													
inward	2	0	0										
Wages	5	0	0										
„ Balance :				47	0	0							
Gross profit c/d				18	0	0							
				65	0	0							
„ Expenses :							„ Gross profit . b/d				18	0	0
Rent	5	0	0										
Sundry													
Expenses	1	0	0										
„ Balance : Net				6	0	0							
profit				12	0	0							
				18	0	0					18	0	0

Gross Profit and Net Profit

You may wonder why it is necessary to find the gross profit and the net profit; that since it is only the net profit that is added to the capital account there is no need to find the gross profit. The business man watches most carefully the relation of his gross profit to his total turnover, that is, his total sales. Nowadays he usually marks up his purchases by a definite percentage to arrive at a sale price which will allow him a certain gross profit. Out of the latter he has to pay his administrative, selling and distributive expenses, and any balance is net profit. Therefore, the bigger the gross profit the larger the net profit. If the gross profit is not big enough to pay the overhead expenses of selling the goods there will be a loss. Usually there are

limits beyond which he cannot cut down his expenses and so unless he can secure sufficient gross profit to cover his expenses he cannot continue to trade.

EXERCISE 2G

		£	s.	d.
May 1	R. Hargitt started business with capital in cash	60	0	0
" 5	Cash purchases	20	0	0
" 6	Purchased for cash	30	0	0
" 8	Paid carriage on purchases	2	0	0
" 10	Sold goods for cash	42	0	0
" 12	Paid carriage on sales	1	0	0
" 15	Sold remainder of goods	50	0	0
" 16	Paid carriage on sales	2	0	0
" 18	Paid wages for preparing goods for sale	6	0	0
" 20	Paid rent	5	0	0

Note that the carriage on purchases is posted to a carriage inwards account and appears on the debit of trading account. The carriage on sales is posted to a carriage outwards account and appears on the debit of profit and loss account.

Gross Loss and Net Loss

If there is a loss in the trading account it is called a gross loss, whilst a loss in the profit and loss account is called a net loss.

EXERCISE 2H

		£	s.	d.
June 1	B. Hall started business with capital in cash	100	0	0
" 6	Purchased goods	90	0	0
" 7	Paid carriage on purchases	4	0	0
" 10	Sold goods	110	0	0
" 11	Paid carriage on sales	5	0	0
" 15	Paid wages for preparing goods for sale	10	0	0
" 16	Paid rent	10	0	0

Note that in the exercise there is a gross profit taken down to a profit and loss account, but the expenses are greater than the gross profit and so there is a net loss. This is subtracted from the capital account.

Profit and Loss Account

	£	s.	d.		£	s.	d.
To Carriage out	5	0	0	By Gross profit	6	0	0
" Rent	10	0	0	" Balance being net loss	9	0	0
	15	0	0		15	0	0

In the balance sheet :

Capital :	£	s.	d.	£	s.	d.
Balance August 1	100	0	0			
Less loss		9	0	0		
				91	0	0

EXERCISE 21

Distinguish between :

1. Assets and liabilities.
2. Debit balance and credit balance.

EXERCISE 2J

1. What is a trial balance, and why is it prepared ?
2. What is a balance sheet and why is it prepared ?
3. How does a trial balance differ from a balance sheet ?

EXERCISE 2K

The following heading appeared in the balance sheet of R. Drinkwater, Grocer. "Balance sheet for the year ending December 31, 194.."

Why is it wrong ?

EXERCISE 2L

Suggest any reasons why "carriage on purchases" is usually included in the trading account, whilst "carriage on sales" appears in the profit and loss account.

EXERCISE 2M

Why are the following prepared : (a) A trading account ; (b) a profit and loss account ?

The answers to the exercises are on page 318.

LESSON THREE

THE CASH BOOK

The Three Column Cash Book

SOMETIMES money is received in cash, sometimes as a cheque ; sometimes it is paid out of cash and sometimes out of the bank by means of a cheque. In the simple form of cash account we used in the ledger, it is not possible to record the difference. Hence extra columns are required. These are usually ruled as shown.

Date	Name	For- to	Dis. All.	Cash Receipts	Bank Receipts	Date	Name	For- to	Dis. Received	Cash Pay- ments	Bank Pay- ments
Jan. 1	To		£ s. d.	£ s. d.	£ s. d.	Jan. 6	By		£ s. d.	£ s. d.	£ s.
" 4	"					" 8	"				

For convenience the cash book is usually bound up separately, but it is still part of the ledger and is one of the ledger accounts.

We shall not, in the next exercises, be using either discount column.

EXERCISE 3A

Cash and Bank Columns

In these simple exercises, enter cheques received in the bank column. In business they are entered in the cash column when received and transferred to the bank column when lodged with the bank, as explained on page 209.

		£	s.	d.
March 1	Cash in hand	10	0	0
" 1	Cash at bank	90	0	0
" 4	Received cheque from D. Powell	50	0	0
" 7	Sold goods for cash	5	0	0
" 9	Purchased goods and paid by cheque	15	0	0
" 12	Paid T. Rees	40	0	0
" 18	Purchased goods by cheque	5	0	0
" 20	Bought stamps with cash	3	0	0

After working it check with the answer below.

		Fol	Cash	Bank		Fol	Cash	Bank
			£ s d	£ s d			£ s d	£ s d
Mar 1	To Balances		10 0 0	90 0 0	Mar 7	By Purchases		15 0 0
" 4	" D. Powell			50 0 0	" 12	" T. Rees		40 0 0
" 7	" Sales		5 0 0		" 18	" Purchases		5 0 0
					" 20	" Stamps		
					" 31	" Balance	c/d	80 0 0
			15 0 0	140 0 0			12 0 0	140 0 0
April 1	To Balance	b/d	12 0 0	80 0 0				

An Overdraft

If the bank grants you an overdraft, it allows you to draw out more money than you have in the bank. Suppose you have £60 in the bank and are allowed to draw a cheque for £100 to buy machinery, the bank column in the cash book would appear as follows:

		Fol	Cash	Bank		Fol	Cash	Bank
			£ s d	£ s d			£ s d	£ s d
Jan. 1	To Balance	b/d		40 0 0	Jan 20	By Machinery		100 0 0
" 31	" Balance	c/d		60 0 0				100 0 0
				100 0 0	Feb 1	By Balance	b/d	60 0 0

The balance will appear on the credit of trial balance and on the liabilities side of the balance sheet.

Note: In connexion with the following exercise it should be noted that a cheque can often be paid for cash sales.

CONTRA ENTRIES

209

EXERCISE 3B

		£	s.	d.
July 1	Cash in the safe	2	5	0
" 1	Balance in the bank	24	0	0
" 2	Received from N. Beale, cheque	12	0	0
" 4	Paid to E. Ormrod	10	7	6
" 5	Sold goods and received cash	4	15	0
" 7	Bought office safe	15	2	6
" 10	Purchased goods for cash	5	0	0
" 15	Sold goods for cash	8	10	0
" 17	Bought stamps	0	10	0
" 18	Sold goods for cash and received cheque	14	10	0

Transferring Money From Cash to Bank

In transferring money from the cash box to the bank, two things happen. First, money is taken out of cash. Second, money is paid into the bank. When this is recorded in the cash book, two entries are necessary. First, enter the item in the cash column on the credit side. Second, enter the item in the bank column on the debit side. It is advisable to write the amount in the two columns and put C for contra in the folio before attempting to write the date or details. Thus :

C	Discount			Cash			Bank		
	£	s.	d.	£	s.	d.	£	s.	d.
							20	0	0

This avoids the risk of being interrupted after writing one side only of the double entry. The date and details can then be written in. On the debit side, the amount is in the bank column, and the wording will be "To Cash," to signify it has come from cash. On the credit side the amount is in the cash column and the wording will be "By Bank," signifying that it has been paid into the bank.

To Pay Cash into Bank

Date	Details	Folio	Dis. All.	Cash Receipts			Bank Receipts			Date	Details	Folio	Dis. Received	Cash Payments			Bank Payments		
				£	s.	d.	£	s.	d.					£	s.	d.	£	s.	d.
Jan. 1	To Bal.	J		£	80	0	£	100	0	0	Jan. 2	By Bank	c	£	70	0	£		
" 2	" Cash	C						70	0	0									

Transferring Money from Bank to Cash

In transferring money from bank to cash, first take the money out of the bank, that is enter the amount in the bank column on the credit side, and put C in the folio column ; then enter the amount in the cash column on the debit side, and enter C in the folio column, because you have placed money into cash. Then write in the date and particulars. On the debit side, the amount

is in the cash column, so the wording will be "To Bank," which signifies that it has come from the bank. On the credit side the amount is in the bank column, so the wording is "By Cash."

To Draw from Bank Office Cash

Date	Details	For- ho	Dis. All.	Cash Receipts			Bank Receipts			Date	Details	For- ho	Dis. Received	Cash Pay- ments			Bank Pay- ments		
			£	s.	d.	£	s.	d.	£	s.	d.		£	s.	d.	£	s.	d.	
Feb. 1	To Bals. .	J							100	0	0	Feb. 4	By Cash	C					
" 4	" Bank .	C				20	0	0								20	0	0	

Contra items are in themselves a double entry and so no posting to the ledger is required.

EXERCISE 3C

		£	s.	d.
April 1	Balance in hand	20	0	0
" 1	Cash in bank	100	0	0
" 4	Sold goods for cash	60	0	0
" 6	Paid cash into bank	50	0	0
" 10	Received cash from S. Shaw	32	0	0
" 15	Paid cash into bank	52	0	0

EXERCISE 3D

		£	s.	d.
June 1	Balance in cash	20	0	0
" 1	Balance in bank	232	0	0
" 6	Purchased goods	100	0	0
" 8	Sold goods for cash	120	0	0
" 10	Paid wages	10	0	0
" 30	Paid all cash into bank			

It should be noted that to find how much cash to pay into bank on June 30, add up the debit side of cash and then subtract from it the credit side of cash.

The Trader's Drawings

If a trader withdraws cash for private purposes it is known as *drawings*. It is entered on the credit side of cash book, as "By Drawings", and is posted to the debit of a drawings account. This will appear in the debit column of the trial balance.

Drawings are not an expense of the business and so do not appear in the trading account or in the profit and loss account. They are really a withdrawal of profits or, if there are no profits, of the capital; they are therefore shown in the balance sheet as a deduction from the capital.

If the owner has withdrawn a greater sum than he earned as profits, and continues to do this, or has a series of losses, all his capital will disappear. If he has £380 capital and next year has a net loss of £100 and his drawings

are £300, the £20 will have to be shown on the assets side of the business. Previously we explained the fact that capital is on the liabilities side, by arguing that the balance sheet is that of the business, and the business owes the capital to the owner of the business. If capital appears on the assets side, the business not merely owes nothing to the owner, but has an asset, namely the amount the owner owes it.

In Exercises 3E, 3F and 3G, enter up the cash book, post to the ledger, and take out a trial balance. Prepare trading account and profit and loss account for the period in question, and then prepare a balance sheet on the closing date.

EXERCISE 3E

S. Dore started business with cash in hand £5 and cash in bank £115.

		£	s.	d.
July 1	Drew from bank for office cash	10	0	0
" 2	Bought goods	50	0	0
" 5	Paid wages to prepare goods for sale	12	0	0
" 8	Sold goods for cash	70	0	0
" 9	Paid cash into bank	65	0	0
" 12	Bought goods	40	0	0
" 15	Sold goods and received cash	58	0	0
" 16	Paid into bank	60	0	0
" 23	Drew cash from bank (contra)	10	0	0
" 24	Paid rent in cash	12	0	0
" 30	Drew cheque for private purposes	10	0	0
" 31	Paid all cash into bank.			

Note that the capital consists of both cash and bank. The contra items do not need posting to the ledger.

EXERCISE 3F

Percy Peach started business with cash in hand £40 and cash in bank £80.

		£	s.	d.
Oct. 1	Paid into bank	35	0	0
" 3	Bought goods	20	0	0
" 4	Bought goods	40	0	0
" 10	Sold goods for cheque	10	0	0
" 12	Sold goods for cash	28	0	0
" 15	Cash sales	32	0	0
" 16	Paid into bank	55	0	0
" 18	Sold for cash	20	0	0
" 20	Paid into bank	20	0	0
" 28	Drew from bank (contra)	5	0	0
" 29	Paid wages	10	0	0
" 30	Paid rent by cheque	10	0	0
" 31	Paid all cash into bank except	2	0	0

EXERCISE 3G

D. B. Willis started business with £25 in cash and £95 in the bank.

		£	s.	d.
Nov. 1	Drew from bank and paid into office cash	15	0	0
" 4	Bought goods, paying half by cash and the rest by cheque	20	0	0
" 5	Paid carriage on above out of cash	1	0	0
" 7	Sold goods and received cash	28	0	0
" 8	Paid from cash into bank	20	0	0
" 8	Paid carriage on sales by cash	1	10	0
" 9	Paid, wages	3	10	0
" 14	Bought goods	50	0	0
" 16	Paid carriage on above out of cash	1	15	0
" 18	Sold goods for cash	16	0	0
" 20	Sold goods for cheque	35	0	0
" 24	Paid carriage on sales by cash	3	5	0
" 28	Paid rent for month by cheque	10	0	0
" 30	Paid all money into bank except	5	0	0

EXERCISE 3H

Explain what is meant by (a) gross profit ; (b) net profit ; (c) gross loss ; (d) net loss.

EXERCISE 3I

If there is a credit balance of profit and loss account, is this a profit or is it a loss ?

EXERCISE 3J

If the capital account is in the assets side of the balance sheet, what does this mean ?

The answers to the exercises are on page 318.

LESSON FOUR

VALUATION OF STOCK AT CLOSE

WHEN a person buys goods and sells all of them, the difference between his purchase price and his selling price is profit or loss. What is the position if he has some stock unsold at the end of the trading period ?

Cox buys vegetables for £10 and sells some of them for £18. His profit appears to be £8. He finds that the goods unsold had cost him £1, and that is the value of his stock at close.

Usually stock is valued at the purchase price. Of course, if some of the vegetables would have to be sold off cheaply in the next period, then the stock should be valued at the selling price, which would be lower than the cost price.

Now Cox bought £10 of vegetables, but sold £9 worth (namely £10 less £1)

for £18, and so has made a profit of £9. He has still £1 worth of goods to start the next trading period. In the trading account this would be shown :

Trading Account for Period ended June 30

	£	s.	d.		£	s.	d.
To Purchases . . .	10	0	0	By Sales . . .	18	0	0
„ Balance being gross profit transferred to profit and loss account . . .	9	0	0	„ Stock at close	1	0	0
	19	0	0		19	0	0

When the value of the unsold stock is ascertained, it is entered on the debit of a stock account in the general ledger, as well as on the credit of trading account.

Stock Account GL 6

	£	s.	d.
June 30 To Trading acc . . .	1	0	0

The balance of stock account will appear on the assets side of the balance sheet, and the stock account will remain open in the above form until the end of the next trading period. It will appear as one of the ledger balances in the next trial balance, taken out at the end of July.

Supposing in July, Cox buys vegetables £12, he will have altogether £13 worth to sell. At the end of the period he takes stock and finds that at cost price it is worth £2. He has received cash for sales £21. He has really sold £11 worth of goods (namely opening stock £1, add purchases £12, less closing stock £2), and so has made a profit of £10.

Trading Account for Period ended July 31

	£	s.	d.		£	s.	d.
To Stock . . .	1	0	0	By Sales . . .	21	0	0
„ Purchases . . .	12	0	0	„ Stock at close	2	0	0
„ Balance being gross profit transferred to profit and loss . . .	10	0	0				
	23	0	0		23	0	0

When we write the words "To Stock," on the debit side of trading account, we turn to the stock account in the general ledger and, on the credit side, write "By Trading account," thus closing off that account.

When we find the value of the stock unsold we turn to the stock account in the general ledger and write "To Trading account £2," and on the credit of trading account we write "By Stock at close £2."

Now work Exercise 4A. A complete answer to the working is given, but it is suggested that you work independently and check every stage as you proceed. (a) First enter the cash book for January. (b) Post to the general ledger. (c) Take out a trial balance. (d) Prepare trading account and remember to debit a stock account with £25 when you credit the trading account with stock at close. (e) Prepare profit and loss account. (f) Close off the sales, purchases and wages accounts. Add the profit to the capital account and bring the balance down. (g) Prepare balance sheet. In the balance sheet you have three balances open. See that in the capital and stock accounts in the ledger you have brought down the balances of £230 and £25, and that you have brought down the cash book balances. All other ledger accounts should be closed. This check in the working should always be done. (h) Continue with the second month in the same successive steps.

EXERCISE 4A

Open the appropriate cash book and ledger accounts, and record the transactions given in the following exercise. Find the gross and net profits, and prepare balance sheets as at January 30 and February 28.

- Jan. 1 Commenced business with £40 cash and £160 in bank.
 " 2 Purchased goods by cheque £100.
 " 7 Sold goods and obtained cash £135.
 " 8 Paid £100 into bank.
 " 11 Bought goods £50 by cheque.
 " 12 Paid wages in cash £9.
 " 20 Sold goods and received cheque £40.
 " 30 Paid rent in cash £11.
 " 31 Stock at close £25.
 Feb. 8 Bought goods and paid cash £20.
 " 12 Sold goods for cheque £40.
 " 14 Bought goods and paid cheque £100.
 " 18 Sold goods and received cheque £90.
 " 20 Paid wages in cash £8 and rent £12.
 " 28 Paid all cash into bank.
 " 28 Stock at close £27.

Cash Book of Exercise 4A

		£	s.	d.	£	s.	d.			£	s.	d.	£	s.	d.
Jan. 1	To Capital %	1	40	0	0	160	0	0	Jan. 2	By Purchases %	3				
" 7	" Sales %	2	135	0	0				" 8	" Bank	c	100	0	0	
" 8	" Cash	c				100	0	0	" 11	" Purchases %	3				50
" 20	" Sales %	2				40	0	0	" 12	" Wages %	4	9	0	0	
									" 30	" Rent %	5	11	0	0	
									" 31	" Balances	c/d	55	0	0	150
			175	0	0	300	0	0				175	0	0	300
Feb. 1	To Balances	b/d	55	0	0	150	0	0	Feb. 8	By Purchases %	3	20	0	0	
" 12	" Sales %	2				40	0	0	" 14	" Purchases %	3				100
" 18	" Sales %	2				90	0	0	" 20	" Wages %	4	8	0	0	
" 28	" Cash %	c				15	0	0	" 20	" Rent %	5	12	0	0	
									" 28	" Bank	c	15	0	0	
									" 28	" Balances	c/d				195
			55	0	0	295	0	0				55	0	0	295
Mar. 1	To Balances	b/d				195	0	0							

A WORKED EXAMPLE
General Ledger of Exercise 4A

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Capital Account GL 1

194..			£	s.	d.	19..			£	s.	d.
Jan. 31	To Balance	c/d	230	0	0	Jan. 1	By Cash	CB	40	0	0
						" 1	" Bank	CB	160	0	0
						" 31	" Profit and loss %	J	30	0	0
			230	0	0				230	0	0
Feb. 28	" P. and L	J	8	0	0	Feb. 1	By Balance	b/d	230	0	0
" 28	" Balance	c/d	222	0	0				230	0	0
			230	0	0				230	0	0
						Mar. 1	By Balance	b/d	222	0	0

Sales Account GL 2

Jan. 31	To Trading %	J	£	s.	d.	Jan. 7	By Cash	CB	£	s.	d.
			175	0	0	" 20	" Cash	CB	135	0	0
			175	0	0				40	0	0
									175	0	0
Feb. 28	To Trading %	J	130	0	0	Feb. 18	By Bank	CB	40	0	0
						" 18	" Bank	CB	90	0	0
			130	0	0				130	0	0

Purchases Account GL 3

Jan. 2	To Bank	CB	£	s.	d.	Jan. 31	By Trading %	J	£	s.	d.
" 11	" Bank	CB	100	0	0				150	0	0
			50	0	0				150	0	0
			150	0	0						
Feb. 8	To Cash	CB	20	0	0	Feb. 28	By Trading %	J	120	0	0
" 14	" Cash	CB	100	0	0				120	0	0
			120	0	0				120	0	0

Wages Account GL 4

Jan. 12	To Cash	CB	£	s.	d.	Jan. 31	By Trading %	J	£	s.	d.
			9	0	0				9	0	0
Feb. 20	To Cash	CB	8	0	0	Feb. 28	By Trading %	J	8	0	0

Rent Account GL 5

			£	s.	d.				£	s.	d.
Jan. 30	To Cash . . .	CB	11	0	0	Jan. 31	By P. & L. % .	J	11	0	0
Feb. 20	To Cash . . .	CB	12	0	0	Feb. 28	By P. & L. % .		12	0	0

Stock Account GL 6

			£	s.	d.				£	s.	d.
Jan. 31	To Trading % .		25	0	0	Feb. 28	By Trading % .		25	0	0
Feb. 28	To Trading % .		27	0	0						

Trial Balance

			£	s.	d.		£	s.	d.
Capital %	GL 1					200	0	0	
Sales %	GL 2					175	0	0	
Purchases %	GL 3		150	0	0				
Wages %	GL 4		9	0	0				
Rent %	GL 5		11	0	0				
Cash balance	CB		55	0	0				
Bank balance	CB		150	0	0				
			375	0	0	375	0	0	

Trading Account for Period ended January 31, GL 7

		£	s.	d.			£	s.	d.
To Purchases		150	0	0	By Sales		175	0	0
„ Wages		9	0	0	„ Stock at close		25	0	0
„ Balance being gross profit . c/d		41	0	0					
		200	0	0			200	0	0

Profit and Loss Account for Period ended January 31, GL 8

		£	s.	d.			£	s.	d.
To Rent		11	0	0	By Trading % . b/d		41	0	0
„ Balance being net profit, to capital account . J		30	0	0					
		41	0	0			41	0	0

Balance Sheet as on January 31, for Exercise 4A

Liabilities						Assets							
	£	s	d	£	s	d		£	s	d	£	s	d
Capital							Cash in hand	55	0	0			
Balance	200	0	0				Cash at bank	150	0	0			
Add profit	30	0	0								205	0	0
				230	0	0	Stock at close				25	0	0
				230	0	0					230	0	0

Trial Balance

		£	s	d	£	s	d
Bank balance	CB 12	195	0	0			
Capital $\frac{a}{c}$	CL 1				230	0	0
Sales $\frac{a}{c}$	GL 2				130	0	0
Purchases $\frac{a}{c}$	GL 3	120	0	0			
Wages $\frac{a}{c}$	GL 4	8	0	0			
Rent $\frac{a}{c}$	GL 5	12	0	0			
Stock $\frac{a}{c}$	GL 6	25	0	0			
		360	0	0	360	0	0

Trading Account for Period ended February 28 GL 7

	£	s	d		£	s	d		
To Stock		130	0	0	By Sales		130	0	0
„ Purchases		120	0	0	Stock		27	0	0
„ Wages		8	0	0					
„ Balance being gross profit	c/d	4	0	0					
		157	0	0			157	0	0

Profit and Loss Account for Period ended February 28 GL 8

	£	s	d		£	s	d
To Rent	12	0	0	By Trading $\frac{a}{c}$	b/d	4	0
				Balance being			
				net loss to			
				capital	J	8	0
				account			
	12	0	0			12	0

Balance Sheet as on February 28, for Exercise 4A

Liabilities						Assets							
	£	s.	d.	£	s.	d.		£	s.	d.	£	s.	d.
Capital :							Cash at						
Balance							bank	195	0	0			
February 1	230	0	0				Stock	27	0	0			
Less loss .	8	0	0	222	0	0					222	0	0
				222	0	0					222	0	0

In order that the cost of the goods sold can be contrasted with the selling price, the closing stock is shown as a subtraction from the debit side in the modern type of trading and profit and loss account.

Trading and Profit and Loss Account for Period ended January 31, 194..

	£	s.	d.	£	s.	d.		£	s.	d.	£	s.	d.
To Cost of goods sold :							By Sales				175	0	0
Purchases	150	0	0										
Less stock unsold	25	0	0										
	125	0	0										
Wages	9	0	0										
				134	0	0							
„ Balance :													
Gross profit c/d				41	0	0							
				175	0	0					175	0	0
To Rent				11	0	0	By Gross profit b/d				41	0	0
„ Balance :													
Net profit transferred to capital account				30	0	0							
				41	0	0					41	0	0

For simplicity, contra items have been avoided by entering cheques received in the bank column.

EXERCISE 4B

Open the appropriate cash book and ledger accounts, and record the transactions given in the following exercise. Find the gross and net profit, and prepare balance sheets as at January 15 and 31.

- Jan. 1 Commenced business with £20 in cash and £480 in bank.
 „ 4 Bought goods £100 and paid by cheque.
 „ 5 Paid carriage on above with cash £10.

Jan. 6	Sold goods and received cheque £60
" 8	Bought goods £40 and paid by cheque.
" 10	Sold goods and received cheque £20.
" 12	Sold goods and received cash £40
" 14	Paid carriage on sales by cash £10.
" 15	Paid £25 into bank
" 15	Stock at close £70
Jan 16	Sold goods and received cheque £60.
" 18	Paid carriage on sales by cheque £5
" 20	Bought goods by cheque £10
" 20	Paid wages £5
" 25	Paid rent by cheque £10
" 30	Drew from bank for self £20
" 31	Paid all cash into bank
" 31	Stock at close £30

EXERCISE 4C

Copy out and complete the following ledger account.

Stock Account

		£	s	d			£	s	d
Jan 1	To Balance .	600	0	0					

The stock was valued at the end of the year at £740

EXERCISE 4D

On February 2nd, S. Rebbeck bought 30 units for electric clocks at £2 each. He bought clock cases for 18s each and paid a man 2s per clock for fixing the units in the cases. During February, he sold 16 sets at £5 each and during March 12 sets at £4 15s each. Prepare separate trading accounts for February and March and find his profit in each month.

The answers to the exercises are on page 319

LESSON FIVE

CREDIT TRANSACTIONS

Credit Purchases

So far all the transactions have been for cash. We have seen that when goods are purchased, cash book is credited and the purchases account debited, when goods are sold, cash book is debited and sales account credited.

When goods are bought on credit there are two distinct steps in the transaction. First the amount of purchases is increased, therefore purchases account is debited and the account of the person from whom the goods are purchased is credited. He is a creditor, a person to whom money is owed. Thus if we buy goods value £100 from Jones the first step is as follows.

BOOK-KEEPING

GENERAL LEDGER
Purchases Account GL 1

		£	s.	d.		£	s.	d.
Jan. 1	To Credit purchases	100	0	0				

BOUGHT OR CREDITORS' LEDGER
Jones Account BL 1

		£	s.	d.		£	s.	d.
					Jan. 1	By Purchases $\frac{a}{c}$	100	0 0

If Jones's account is not paid off before the end of the trading period, he will appear as a creditor on the liabilities side of the balance sheet.

The second step is when we pay the creditor; then we credit cash book and debit his account.

Jones Account BL 1

		£	s.	d.		£	s.	d.
Jan. 31	To Cash CB	100	0	0	Jan. 1	By Purchases $\frac{a}{c}$	100	0 0

CASH BOOK

		£	s.	d.		£	s.	d.
					Jan. 31	By Jones $\frac{a}{c}$. BL 1	100	0 0

In the above example it will be seen that Jones's account is closed and that purchases account has a debit balance and cash book a credit balance; which is just what the entries would be if the goods had been purchased for cash.

If during the month a number of credit purchases takes place, in each case the personal account of the creditor in the bought ledger will be credited and purchases account in the general ledger debited. Instead of making separate entries in the purchases account, all the items could be added up and the total debited to purchases account.

		£	s.	d.		£	s.	d.
Jan. 1	Jones	Dr.	80	0	0			
	Purchases $\frac{a}{c}$	Cr.				80	0	0
	for purchase of goods.							
Jan. 1	Smith	Dr.	70	0	0			
	Purchases $\frac{a}{c}$	Cr.				70	0	0
	for purchase of goods.							

CREDIT PURCHASES

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The above journal entries show that we bought goods on credit from Jones for £80, and from Smith for £70. A journal is a book written up day by day. It would amount to the same thing if we wrote :

			£	s.	d.	£	s.	d.
Jan. 1	Jones	Dr.	80	0	0			
	Smith	Dr.	70	0	0			
	Purchases $\frac{a}{c}$	Cr.				150	0	0
	for purchase of goods.							

So has emerged the modern method of writing all credit purchases in a purchases day book and posting each item daily to the credit of the personal account in the bought ledger and the total monthly to purchases account.

PURCHASES DAY BOOK

			£	s.	d.	£	s.	d.
Jan. 1	T. Reeves	Cr.	BL 1	18	0	0		
	12 cloths at £1 10s.			18	0	0		
	48 serviettes at 7s. 6d.						36	0
„ 8	S. Hughes	Cr.	BL 2				24	0
	12 cloths at £2						0	0
„ 18	T. Reeves	Cr.	BL 1	21	0	0		
	12 cloths at £1 15s.			12	0	0		
	24 serviettes at 10s.						33	0
	Purchases account	Dr.	GL 1				93	0

Notice all calculations are shown in the details column and one amount only for each person in the total column. The posting will be as follows :

BOUGHT LEDGER

T. Reeves BL 1

	£	s.	d.			£	s.	d.
Jan. 1				By Purchases	PB	36	0	0
„ 18				„ Purchases	PB	33	0	0

S. Hughes BL 2

	£	s.	d.			£	s.	d.
Jan. 8				By Purchases	PB	24	0	0

GENERAL LEDGER

Purchases Account GL 1

	£	s.	d.			£	s.	d.
Jan. 31	To Credit purchases for month					93	0	0

If on January 20 we paid S. Hughes, we should credit cash and debit his account.

S. Hughes

Jan. 20	To Cash	CB	£	s.	d.	Jan. 8	By Purchases	PB	£	s.	d.
			24	0	0				24	0	0

If on January 24 we paid T. Reeves £50 on account we should credit cash and debit his account.

T. Reeves

Jan. 24	To Cash	CB	£	s.	d.	Jan. 1	By Purchases	PB	£	s.	d.
			50	0	0				36	0	0
" 31	" Balance	c/d	19	0	0	" 18	" Purchases	PB	33	0	0
			69	0	0				69	0	0
						Feb. 1	By Balance	b/d	19	0	0

The balance would appear as a credit in the trial balance, and on the liabilities side of the balance sheet as follows.

<i>Liabilities.</i>			£	s.	d.			£	s.	d.
Creditor :										
T. Reeves			19	0	0					
Capital										

Credit Sales are treated in a similar way to credit purchases. The entries are made in a sales day book. The individual items are posted to the debit of the personal accounts of the debtors in the sales ledger. The total of sales book is posted to the credit of sales account in the general ledger.

SALES BOOK

Aug. 1	R. Roberts	Dr.	SL 1	£	s.	d.	£	s.	d.
	2 Cycles			15	0	0			
	Accessories			1	0	0	16	0	0
Aug. 3	T. Jenkins	Dr.	SL 2				22	0	0
	3 Cycles								
	Sales $\frac{a}{c}$	Cr.	GL 2				38	0	0

SALES LEDGER

R. Roberts Account SL 1

Aug 1	To Sales	SB	£	s.	d.			£	s.	d.
			16	0	0					

J. Jenkins Account S.L. 2

			£	s.	d.				£	s.	d.
Aug. 3	To Sales	SB	22	0	0						

GENERAL LEDGER
Sales Account GL 2

			£	s.	d.				£	s.	d.
						Aug. 31	By Credit sales for month		38	0	0

Now work the following exercise in this order :

1. Write up the sales book and post each item, as you do so, to the debit of the personal account in the sales ledger.
2. Write up the purchases book and post each item to the credit of the personal account in the bought ledger.
3. Write up the cash book and post to the ledger.
4. Total the sales book and post the total to the credit of sales account in the general ledger.
5. Total the purchases book and post the total to the debit of the purchases account in the general ledger.
6. Take out a trial balance.

EXERCISE 5A

T. Rogers opened a confectionery shop with £50 in the bank as his capital on January 1. He made all payments by cheque and banked his sales weekly.

- Jan. 2 He bought fixtures for £40, and paid by cheque.
- " 2 He bought on credit from B. Hawes—
50 bottles of boiled sweets at 7s. a bottle.
5 boxes of chocolate bars at 12s. a box.
- " 4 He bought on credit from S. Meredith—
100 boxes of cigarettes for £2 2s.
100 boxes of matches for 7s. 6d.
- " 7 His cash takings for the week were banked this day, £8 15s.
- " 14 Banked cash takings £11 10s.
- " 18 He bought on credit from B. Hawes—
25 bottles of boiled sweets at 7s. a bottle.
- " 19 He bought matches and gave cheque for £1.
- " 21 Banked cash takings £10 2s. 6d.
- " 28 He paid rent £2.
- " 29 He paid Meredith's account.
- " 30 He drew for personal use £8.
- " 31 He banked cash takings £11 5s.
- " 31 He paid B. Hawes on account £25.
- " 31 He valued his stock at £2 2s. 6d.

Enter the above transactions in the appropriate books, then extract a trial balance and a trading account, profit and loss account for the month, and

a balance sheet as on January 31. Write the invoice received on January 4.

EXERCISE 5B

R. Swayne starts, with £150 as his capital, a business of wholesale confectionery.

March 1 He buys on credit from Tobacco Manufacturing Co., Ltd. cigarettes and tobacco to the value of £70.

" 2 He buys on credit from Sweet Manufacturers Ltd., sweets and chocolates to the value of £65.

" 4 He sells to R. Currie—

	£	s.	d.	£	s.	d.
300 boxes cigarettes	12	12	0			
400 boxes chocolates	12	12	0			
700 boxes cigarettes	32	10	0			
	<hr/>			57	14	0

" 4 Paid carriage on purchases £5.

" 5 Bought job lot of sweets and gave cheque £20.

" 6 He sells to J. Barnes—

	£	s.	d.	£	s.	d.
500 boxes cigarettes	15	15	0			
300 boxes chocolates	12	12	0			
800 boxes chocolates	33	8	0			
	<hr/>			61	15	0

" 8 Bought office desk and gave cheque for £15.

" 9 Currie pays his account.

" 10 He sells to R. Currie—

	£	s.	d.	£	s.	d.
700 boxes cigarettes	22	10	0			
800 boxes chocolates	33	8	0			
	<hr/>			55	18	0

" 20 He sells to J. Barnes—

500 boxes cigarettes £15 15s.

" 21 Paid carriage on sales £7.

" 22 He pays £50 on account to Tobacco Manufacturing Co.

" 23 He pays his account to Sweet Manufacturers Ltd.

" 26 Barnes pays £60 on account.

" 28 Paid wages £6.

" 28 Paid rent £10.

" 31 Stock on hand valued at £15.

Trade Discount

Suppose you have a tobacconist shop and go to your wholesaler to buy six pipes. Another shopkeeper is being served and he buys six pipes of the kind you intend to buy and is quoted 10s. a pipe. When you ask, you are quoted 12s. a pipe. Naturally you are annoyed, and not pacified with the wholesaler's explanation that the previous customer does a great deal of business and has special terms. The trouble could have been avoided if the wholesaler had fixed a list price and allowed different rates of trade discount. You would have heard the previous customer quoted £1 each.

He would have asked, "The usual discount?" "Yes, the usual." When you are served in the same manner, you go away satisfied, not knowing that he receives 50 per cent while you receive 40 per cent trade discount.

Trade discount is of great value when prices have to be altered. If the actual price of the goods is printed in the catalogue and the prices have to be increased or decreased, the catalogues are out of date and have to be scrapped. On the other hand, when a list price is given for each article and a special inset shows the rate of trade discount, say articles 1-50 50 per cent, 51-80 33½ per cent, then if prices are raised a new inset can be printed, or notice sent to the firms that in the future for 50 per cent read 40 per cent and for 33½ per cent read 25 per cent trade discount.

A third advantage of trade discount is that a manufacturer or wholesaler can issue to the public and to the trade the same catalogue, the latter alone having the special inset showing the trade discount. The public become familiar with the price they have to pay.

Trade discount is then a deduction from the list or catalogue price to arrive at the invoice price. The latter is posted to the personal account. The trade discount is not posted. It is shown on the invoice and is usually shown in the details column in the purchases and sales book. Once the calculation has been made and the actual price obtained, the trade discount has served its purpose.

PURCHASES BOOK

			£	s.	d.	£	s.	d.
Jan. 1	R. Rose, Ltd. Cr.	BL I						
	12 pipes at 10s.		6	0	0			
	Less trade discount 50%		3	0	0			
			3	0	0			
	Pipe cleaners, job lot, net		1	0	0	4	0	0
	Purchases % Dr.	GL I				4	0	0

Rose's account will be credited with £4.

The Invoice

When goods are sold, the seller forwards to the buyer, usually on the day when the goods are dispatched, an invoice giving full particulars of the goods: description, price per article or per lb., total price, amount of trade discount, total price due on the sale, details of any special terms, date of dispatch, whether by rail or carrier.

The purchaser uses the information to write up his purchases book. Some firms avoid the trouble of writing the purchases book and the risk of errors, by binding together the actual invoices received; a list of the invoices is made, giving the name, invoice number and net amount, and the posting is made from this list. Similarly some sellers bind together copies of the invoices they forward and use this file as the sales book, together with a list.

EXERCISE 5C

Prepare purchases book of R. Harper, Bros. and post to ledger accounts.

		£	s.	d.
March 10	Bought from S. Markby Ltd.— 1 electric fire with tile surround, No. EFS 53 raised hearth, 2 kw chromium-plated reflector	15	0	0
	1 tile fireplace No. TF40, in mottle tiles, 16 in. barless fire, solid back brick, 4 in. slabbed raised hearth with sunk curb effect	9	0	0
	Whole invoice subject to 25% trade discount.			
" 20	Bought from Electric Supply Company— 2 three-light pendants No. P201 at £6 each, subject to trade discount of 25%			
	1 electric bell indicator, net	1	10	0
" 24	Bought from S. Markby, Ltd.— 1 porcelain enamelled cast-iron bath, with chromium-plated fittings, No. B4156.	28	0	0
	Less trade discount of 25%			

EXERCISE 5D

Write out the invoice that S. Markby, Ltd., forwarded to R. Harper, Bros. on March 10.

EXERCISE 5E

Prepare the sales book of S. Weston & Sons, paint and distemper merchants.

		£	s.	d.
July 1	Sold to T. Jeans— 1 cwt. white water paint	4	0	0
	¼ cwt. scarlet water paint in galvanized-iron containers free and non-returnable	3	0	0
	1 cwt. tub distemper	3	0	0
	Invoice subject to 10% trade discount.			
" 10	Sold to R. Wayson— ½ cwt. washable distemper	1	10	0
"	½ cwt. ceiling distemper	1	0	0
	Invoice subject to 15% trade discount.			
" 28	Sold to R. Wayson— ¼ cwt. white water paint	1	0	0
	10 tins 7lb. ready-mixed decorators' paint at 8s. per tin packed in free tins	4	0	0
	4 gallons white enamel at 30s. per gallon	6	0	0
	1 gallon copal oak varnish	1	0	0
	Invoice subject to 10% trade discount.			

EXERCISE 5F

Assume that R. Harper Bros. had a capital of £200 on March 1, and that the transactions for March consisted of those shown in Exercise 5C together with the following :

- March 20 Paid S. Markby's account.
 „ 24 Paid Electric Supply Company's account.
 „ 29 Bought electric bulbs for cash, £2.

Use the ledger accounts previously opened and any other required.
 Extract a trial balance.

EXERCISE 5G

Prepare the invoices forwarded to T. Jeans on July 1, and to R. Wayson on July 28.

EXERCISE 5H

Suppose S. Weston & Sons, paint and distemper merchants, had stock £1,000, and cash £200, their capital would be £1,200. Post the stock to the debit of stock account, the cash to the debit of cash book and the capital to the credit of capital account. Now post the items in the sales book of Exercise 5E and then complete the cash book from the items below, post to ledger and take out a trial balance.

		£	s.	d.
July 8	Bought office desk for cash	15	0	0
„ 26	T. Jeans paid his account.			
„ 27	R. Wayson paid his account.			

The answers to the exercises are on pages 319-320.

LESSON SIX

HOW TO DEAL WITH RETURNS

Purchases Returns

WHEN a purchaser returns some goods, he makes an entry in his purchases returns book or, as it is often called, returns outwards book.

PURCHASES RETURNS BOOK

			£	s.	d.
Jan. 9	T. Reeves Dr. 4 cloths at £1 10s. not up to quality . .	BL 1	6	0	0
	Purchases returns Cr.	GL 3	6	0	0

He posts the total of the book to the credit of purchases returns account, or it may be called returns outwards account, in the general ledger.

Purchases Returns Account GL 3

			£	s.	d.				£	s.	d.
						Jan 31	By returns for month	PRB	6	0	0

He debits the seller's account in the bought ledger with £6.

T. Reeves' Account BL 1

			£	s.	d.				£	s.	d.
Jan. 9	To Returns .	PRB	6	0	0	Jan. 1	By Purchases .	PB	36	0	0
„ 26	„ Cash .	CB	50	0	0	„ 18	„ Purchases .	PB	33	0	0
„ 31	„ Balance .	c/d	13	0	0						
			69	0	0				69	0	0
						Jan. 31	„ Balance .	b/d	13	0	0

The buyer may forward to the seller a debit note with the goods returned. This is merely an intimation that he has debited the seller's account in his ledger with the value of the returns.

DEBIT NOTE

T. Reeves,
Portsmouth.

Southampton,
January 9, 194..

A. BUYER

		£	s.	d.
Jan. 9	4 cloths at £1 10s.	6	0	0
	Defective in design.			

On the other hand he may forward a letter when he returns the goods and ask the seller to forward him a *credit note*. This will inform him that his account in the seller's ledger has been credited with the amount stated. Thus in the example we have taken, Reeves will have an account for A. Buyer in his sales ledger and will credit it with £6.

A. Buyer SL 1

			£	s.	d.				£	s.	d.
Jan. 1	To Sales .	SB	36	0	0	Jan. 9	By Returns .	SRB	6	0	0
„ 18	„ Sales .	SB	33	0	0						

CREDIT NOTE

A. Buyer,
Southampton.

Portsmouth,
January 10, 194..

T. REEVES

		£	s.	d.
Jan. 9	4 cloths at £1 10s. returned	6	0	0
	Defective design.			

A credit note is sent to a purchaser when he is to receive an allowance for goods returned and for packing cases returned. It is also used if a deduction is to be made for any cause, or if too much has been charged.

The most important thing to notice in connexion with debit notes, credit

notes and returns is, that if the goods are purchased subject to a trade discount, the same rate of trade discount must be deducted when the goods are returned. If a man bought £100 of goods subject to 40 per cent trade discount he expects to pay £60. If he returns half the goods he can claim £50 less 40 per cent, namely £30.

Sales Returns

When goods which have previously been sold are returned, the seller will receive a debit note or a letter explaining why the goods are returned. He will forward a credit note to show that he has credited the account of the customer who returned the goods. From the carbon copy of the credit note, he will write up his sales returns book or, as it is sometimes called, returns inward book. Those firms which bind together copies of invoices forwarded by them instead of writing a sales book, and bind together invoices received instead of writing up a purchases book, will likewise bind a copy of the credit notes forwarded by them instead of writing up a sales returns book.

When posting to the ledger the individual items are posted to the credit of the personal account in the sales ledger, and the total of sales returns book is posted to the debit of a sales returns account or a returns inwards account.

Summary of Credit Transactions

Credit Purchases. Receive invoice ; enter in purchases book ; post items to credit of personal account in bought ledger ; post total to debit of purchases account in general ledger.

Credit Sales. Send invoice ; enter in sales book , post items to debit of personal account in sales ledger ; post total to credit of sales account in general ledger.

Purchases Returns. A debit note should be sent ; a credit note received ; enter in purchases returns (returns outwards) book. Post items to debit of personal account in bought ledger ; post total to credit of purchases returns or returns outwards account in general ledger.

Sales Returns. A debit note should be received and a credit note should be sent. Post items to credit of personal account in sales ledger ; post total to debit of sales returns or returns inwards account in the general ledger.

EXERCISE 6A

Describe the use of debit notes and credit notes.

EXERCISE 6B

In which account and on which side of the account would you find the following .

1. Goods valued £5 returned by us to Raines.
2. The total purchases for month £100.
3. The total of goods returned to us during the month.
4. We sold goods valued £10 to Ronalds.

In each case state the name of the other account which would be affected.

EXERCISE 6C

In the following cases, state which account is debited and which credited.

1. We sent a credit note for £5 to Stafford.
2. We received a debit note for £1 from Templeman
3. King sent us a credit note for £2.

EXERCISE 6D

You receive from B. Leeson, Birmingham, a credit note. The catalogue price of the goods in question was £30 and it was subject to a trade discount of $33\frac{1}{3}$ per cent. Write out the credit note making up the necessary details and addresses, and the reason for the return of the goods. In your ledger make the necessary entries.

EXERCISE 6E

- J. Leslie started as an ironmonger with capital £200 in cash.
- Jan. 1 Paid £190 into bank.
- " 2 Purchased from S. Wood, Ltd.—
 6 art black knockers at 10s. each.
 12 casement fasteners at 10s. each.
 Less 25 per cent trade discount.
- " 3 Bought part of a bankrupt's stock for £180 and paid cheque.
- " 5 Sold to H. Wallis—
 12 fanlight catches at 30s. per doz. Less 10 per cent trade discount.
 4 door closers No. D.S. 10 £3 each net.
 6 doz. wrought steel hinges, size 4 inches, at 12s. per doz.
 Less 10 per cent trade discount.
- " 6 Returned to S. Woods—
 2 casement fasteners purchased on Jan. 2.
- " 7 Cash sales for week, £30.
- " 8 Paid into bank £20.
- " 8 Purchased from S. Woods, Ltd.—
 12 doz. japanned wrought steel hasps and staples at 5s. a doz.
 12 doz. single-screw pulleys at 10s. a doz.
 Less 25 per cent trade discount.
- " 9 H. Wallis returned—
 5 fanlight catches purchased on Jan. 5.
- " 10 Sold to T. Mungall—
 1 doz. burglar-proof sash fasteners at 100s. per doz.
 6 doz. polished brass flush drawer handles at 30s. per doz.
 Less trade discount 10 per cent.
- " 11 Paid to S. Woods £10 on account by cheque.
- " 12 Paid wages £4.
- " 13 Wallis paid us £14 on account, by cheque.
- " 14 Paid rent £5.
- " 14 Sales for week £50.
- " 14 Withdrew for personal use cheque £10.
- " 14 Paid all cash into bank except £10.

Enter in books of original entry. Post to ledger. Take out trial balance. Prepare trading account, profit and loss account and balance sheet. Closing stock £120. Write out the notes received by Woods on January 7 and

received by Wallis on January 10. Continue the exercise.

Jan. 16 Sold to H. Wallis—

4 doz. japanned coat hangers at 25s. per doz.

12 bronze metal door handles at £1 each.

Less 10 per cent trade discount.

„ 18 Sold to T. Mungall—

6 bakelite rebated mortise lock sets at 10s. each net.

„ 21 Cash sales £55.

„ 22 Paid into bank £40

„ 22 Purchased from S. Woods, Ltd.—

6 pairs springloaded lever handles at £2 per pair.

Less 25 per cent trade discount.

„ 28 Cash sales £45.

„ 29 Paid rent £5.

„ 30 Paid wages £4.

„ 30 Withdrew for personal use, cheque £10.

„ 31 Paid all cash into bank.

„ 31 Stock at close £50.

Prepare trial balance, trading account, profit and loss account, and balance sheet.

The answers to the exercises are on page 320.

LESSON SEVEN

CASH DISCOUNT

THE seller of goods frequently allows a cash discount off the invoice price of the goods in order to induce the purchaser to pay promptly. This cash discount must not be confused with trade discount, which, as we have seen, is a deduction off the catalogue price to arrive at the invoice price. The allowing of cash discounts has three advantages.

First, accounts are settled more promptly. Second, the money that has come in can be used to purchase more goods. Consequently less capital will be required, and the turnover, compared with the number of times the capital invested in goods is turned over, is higher. Thus, Firm A, capital £500, buys £500 of goods and sells them in six months, buys more and sells them. Firm B, capital £250, buys £250 of goods, sells them in three months, purchases more and sells £250 each quarter. Both firms have sold £1,000 of goods, but the one firm has twice as much capital as the other. Third, since the accounts are settled promptly there is less likelihood of bad debts, that is of accounts not being paid.

On January 1, J. Smith owes us £100. He pays £99 in full settlement on January 8. Enter the £99 on the debit of cash book and post to Smith's account.

J. Smith's Account

		£	s.	d.			£	s.	d.
Jan 1	To Balance	100	0	0	Jan. 8	By Cash	99	0	0

Then we write £1 on the credit of Smith's account and £1 on the debit of discounts allowed account; for if we forget this, Smith's account will show a balance of £1 owing to us.

J. Smith's Account SL 1

Jan. 1	To Balance	£	s.	d.	Jan. 8	By Cash	£	s.	d.
		100	0	0	„ 8	„ Discount	99	0	0
							1	0	0
		100	0	0			100	0	0

Discount Allowed Account GL 1.

Jan. 8	To Smith	£	s.	d.				£	s.	d.
		1	0	0						

The discount allowed account is closed by transferring it to the debit of profit and loss account.

In order to avoid the trouble of turning to the ledger each time discount is allowed or received an extra column is used on the debit and on the credit of the cash book to make a record of the discounts. This record ensures that they will not be forgotten at the end of the month, when the posting is done. These columns are not part of the cash book, but are just used for convenience.

On February 1 Baker owes us £80 and pays £79 in full settlement: Jones owes us £50 and pays £49 in full settlement. We owe Hughes £100 and pay £98 in full settlement. We owe Thomas £50 and pay £49 in full settlement.

CASH BOOK

		Dis. All.			Cash			Bank					Dis. Rec.			Cash			Bank		
		£	s.	d.	£	s.	d.	£	s.	d.			£	s.	d.	£	s.	d.	£	s.	d.
To Baker		1	0	0				79	0	0			2	0	0				98	0	0
.. Jones		1	0	0	0	0	0	40	0	0			1	0	0	4	0	0	45	0	0

In the personal account the discount and the cash paid or received are posted thus:

Thomas' Account BL 1

Feb. 10	To Bank	CB	£	s.	d.	Feb. 1	By Balance	b/d	£	s.	d.
.. 10	.. Cash	CB	4	0	0				50	0	0
.. 10	.. Discount	CB	1	0	0						
			50	0	0				50	0	0

The items on the debit side would usually be entered in one amount as "To Cash and Discount £50" and the cash book would be referred to for details.

The two discount columns are not balanced one with the other. The total

of the discount allowed column is posted to the debit of the discount allowed account and the total of discount received column to the credit of discount received account. Both are closed by transfer to profit and loss account.

Discount Allowed Account GL 10

Feb. 28	To Discount for month	CB	£	s.	d.	Feb. 28	By Transfer to profit and loss %	J	£	s.	d.
			2	0	0				2	0	0

Discount Received Account

Feb. 28	To Transfer to profit and loss %	J	£	s.	d.	Feb. 28	By Discounts for month	CB	£	s.	d.
			3	0	0				3	0	0

A common mistake is to post the total of discount allowed column to the credit of discount allowed account, with the mistaken belief that all the debits of cash book must be posted to the credit of a ledger account. It should be remembered that the discount column is in the cash book only for convenience. The double entry has been obtained by posting the total of the discount allowed column to the debit of discount allowed account and the individual items in that column to the credit of Baker's and Jones's accounts. The double entry for discounts received is obtained by posting the total of the discounts received column to the credit of discounts received account; the individual items are posted with cash paid to debit of personal accounts.

EXERCISE 7A

In which accounts and on which side of the accounts would you find the following ? :

1. The total of the discount column on the credit side of cash book.
2. Discounts allowed by the business to debtors during the year.
3. Trade discount of £10 deducted from goods sold to Kemp.

EXERCISE 7B

Record the following in the cash book of T. Stevenson.

- Jan. 1 Balance of cash £10.
 „ 1 Balance in bank £90.
 „ 2 Paid Rexton's account of £50 and was allowed cash discount of 2½ per cent.
 „ 8 Received from T. Tompkins cheque for £97 10s. in settlement of debt of £100.
 „ 10 Paid Roberts a cheque for £24 7s. 6d. in settlement of our debt of £25.
 „ 12 Received payment of Steen's account of £60, and allowed him 2½ per cent cash discount.
 „ 28 Paid wages in cash £6.

Balance the cash book and bring down the balance. Show Tompkins' account and Roberts' account as they would appear in the ledger, inserting the necessary balances at commencement.

Show the discounts received account and discounts allowed account in the nominal ledger and close off these accounts at the end of the month.

EXERCISE 7C

What is (a) trade discount; (b) cash discount? Explain carefully the difference in treatment.

EXERCISE 7D

S. Groome started business with cash £100. The following are his transactions for January:

		£	s.	d.
Jan. 1	Paid cash into bank	90	0	0
" 6	Bought from J. Sharp—			
	Hemstitched damask bordered towels	40	0	0
	Plain hemmed huck towels	40	0	0
	The whole invoice subject to 10 per cent			
	Trade discount			
" 8	Bought from H. Beach—			
	Double damask 9/10 cloths	45	0	0
	Double damask 6/8 cloths	15	0	0
	Less 10 per cent trade discount			
" 14	Sold to E. Marshall—			
	Damask bordered towels	10	0	0
	Hand towels	15	0	0
" 18	Returned to H. Beach—			
	Damask 6/8 cloths, list price £10			
" 20	E. Marshall sent cheque in settlement	24	0	0
" 28	Settled Sharp's account by cheque	69	0	0
" 29	Sold to R. Sims—			
	Double damask 8/10 cloths	15	0	0
	Double damask 6/8 cloths	12	0	0
" 30	Paid carriage on sales	1	0	0
" 30	Cash sales for month, banked	70	0	0
" 31	Paid wages in cash	5	0	0
" 31	Sims sent cheque in settlement	26	0	0

You are required to enter the transactions in the books of original entry; to post to ledger; to take out trial balance, trading account, profit and loss account and balance sheet. Bank cheques received same day.

Value of stock in hand at end of January is £60.

LESSON EIGHT

THE JOURNAL

Opening Entries

IF a business has been in existence prior to the period for which the trading transaction is concerned, there will be certain outstanding balances which will have to be incorporated in the accounts for the period. The usual method is to prepare a list of these balances, showing the debit balances followed by the credit balances. If the capital is not given, it can readily be found by subtracting the credit from the debit.

EXERCISE 8A

J. Jenkins has the following balances on January 1, 194...: Cash in hand £40, cash in bank £180, stock £120; creditors: Jones £80, Smith £200, land and buildings £500; debtors: Green £100, Hughes £80, plant and machinery £350. Prepare opening entry and find his capital.

Opening Entry of J. Jenkins, January 1, 194...

			£	s.	d.	£	s.	d.
Jan. 1	Cash in hand	CB	40	0	0			
	Cash at bank	CB	180	0	0			
	Stock	GL 1	120	0	0			
	Plant and machinery	GL 2	350	0	0			
	Land and buildings	GL 3	500	0	0			
	Debtors—Green	SL 1	100	0	0			
	Hughes	SL 2	80	0	0			
	To Creditors—Jones	BL 1				80	0	0
	Smith	BL 2				200	0	0
	„ Capital account	GL 4				1,090	0	0
	Being assets and liabilities at this date		1,370	0	0	1,370	0	0

The items are then entered in the appropriate ledger accounts or cash book; the debit entries being entered as "To Balance," the credit entries as "By Balance." In the folio column is written J for journal, or J 1, meaning the first entry in the journal, or OE for opening entry.

It cannot be too strongly stressed that the items in the debit column of the opening entry are posted to the debit column of the ledger accounts or cash book, those in the credit column to the credit of the ledger accounts.

Care must be taken to put all the debit items together in the opening entry, and then the credit items.

EXERCISE 8B

Prepare opening entry for the following: Cash at bank £80, cash in hand £10, stock £70; creditor: Jones £200, plant and machinery £300; debtor: Toms £50.

At one time a journal entry was made for every transaction. The journal was written up day by day, and the entries were posted from here to the ledger. On the first line of the journal entry was given the account to be

debited, and on the second line the account to be credited. After a time certain entries were grouped into different books, such as the entries for purchases, sales and returns. So that, apart from the opening entry previously discussed, journal entries are now confined to a very few topics such as purchase and sale of assets on credit, the correction of errors, and closing entries.

Purchase and Sale of Assets on Credit

When an asset is purchased or sold on credit, it may be entered in the purchases or sales book, but the total must be analysed and so much posted to purchases or sales account and so much to the asset account; because the asset account appears in the balance sheet, whereas the purchases or sales account is closed by transfer to trading account. Alternatively, a journal entry is made.

		£	s.	d.	£	s.	d.
Jan. 10	Office furniture Dr.	20	0	0			
	To Woodwork & Co. Ltd. . . .				20	0	0
	For purchase of office desk on credit						

The above is a journal entry signifying that we bought on credit on January 10 an office desk from Woodwork & Co., Ltd. Notice four features : (a) The date; (b) the account to be debited, with Dr. in front of column and the amount in the debit column; (c) the ledger account to be credited with the amount in the credit column; this is indented one inch and starts with "To"; (d) the narration, which is a most important feature and tells the story behind the entry.

Sometimes two accounts have to be debited and one credited.

		£	s.	d.	£	s.	d.
Jan. 12	Typewriter account Dr.	40	0	0			
	Stationery account Dr.	2	0	0			
	To Office Supplies, Ltd. . . .				42	0	0
	For purchase of Bourne typewriter and typewriting paper and carbons on credit.						

The typewriter account will appear as an asset in the balance sheet, whereas the stationery account will be transferred to profit and loss account.

Sometimes one account has to be debited and two credited. This is illustrated by the journal entry for the sale of two assets.

		£	s.	d.	£	s.	d.
Jan. 14	R. T. Lee & Sons Dr.	21	0	0			
	To office furniture				9	0	0
	To fixtures & fittings				12	0	0
	For sale on credit of old office desk and old showcase.						

EXERCISE 8C

Give journal entries recording the following in the books of R. Stuart, a tailor :

- Feb. 10 Purchased 15 lb. iron from Hardons, Ltd., for £2 15s.
 " 20 Sold 7 lay figures to R. Snell for £6.
 " 27 Bought desk for office for £20, and new showcase for showroom for £38 from Parsons and Sons, Ltd.

EXERCISE 8D**Correction of Errors**

On January 18, goods valued at £17 were sold to S. Smithies, but posted in error to S. Smith. Correct the error by means of a journal entry.

Now we know the goods were sold, so the entry will have been made on the credit of sales account and posted to the debit of Smith's account. To correct the error therefore we must credit Smith's account and debit Smithies' account.

Sales Account

			£	s.	d.			£	s.	d.
						By Smithies	.	17	0	0

Smith's Account

	To Sales	.	.		£	s.	d.		£	s.	d.
					17	0	0		17	0	0

Smithies' Account

			£	s.	d.			£	s.	d.
			17	0	0					

The journal entry is

Jan. 18	Smithies' %	.	.	.	.	.	Dr.	£	s.	d.	£	s.	d.
	To Smith's %	.	.	.	.	.					17	0	0
	For correction of error of posting.												

The wording in Smith's account is " By Smithies " ; in Smithies' account " To Smith."

EXERCISE 8E

On March 1, we received cash £50 from Hood, but posted it in error to Hurdley. Make the journal entry. Now we received the cash, therefore cash was debited and Hurdley credited. All that is necessary is to debit Hurdley's account and credit Hood's account.

BOOK-KEEPING

Hurdley's Account

			£	s.	d.			£	s.	d.
			50	0	0		By cash . . .	50	0	0

Hood's Account

			£	s.	d.			£	s.	d.
								50	0	0

March 1	Hurdley's $\frac{1}{2}\%$	.	.	.	.	Dr.	£	s.	d.	£	s.	d.
	To Hood's $\frac{1}{2}\%$	.	.	.	.	.	50	0	0	50	0	0
	For correction of error of posting.											

EXERCISE 8F

On March 10 we returned goods valued at £20 to S. James, but posted it to R. Jameson's account. If we returned goods it was a case of purchases returns or returns outwards. The total is posted to the credit of returns outwards account. We should have debited James's, but instead we debited Jameson's account. So credit Jameson's account, and debit James's account in the journal entry.

March 10	S. James's $\frac{1}{2}\%$	.	.	.	.	Dr.	£	s.	d.	£	s.	d.
	To R. Jameson's $\frac{1}{2}\%$	.	.	.	.	.	20	0	0	20	0	0
	For correction of error of posting on return of goods to Jameson.											

EXERCISE 8G

On March 14 we sold a typewriter for £10, but posted the proceeds to office stationery account. Cash was debited and office stationery account was credited. Therefore, debit office stationery account and credit typewriter account or office equipment account.

March 14	Office stationery $\frac{1}{2}\%$	.	.	.	.	Dr.	£	s.	d.	£	s.	d.
	To Office equipment $\frac{1}{2}\%$	.	.	.	.	.	10	0	0	10	0	0
	For correction of error of posting of sale of typewriter.											

EXERCISE 8H

On March 31 we paid £20, the rent of our private house, and posted it to rent account. We credited cash and posted to the debit of rent account. We should have posted it to the debit of drawings account. Therefore, debit drawings account and credit rent account.

		£	s.	d.	£	s.	d.
March 31	Drawings $\frac{1}{2}\%$ Dr.	20	0	0			
	To rent $\frac{1}{2}\%$				20	0	0
	For correction of entry for rent of house posted to rent $\frac{1}{2}\%$.						

EXERCISE 81

- Correct by journal entries the following errors in the books of R. Dawson :
- July 20 £20 10s. received from T. Jenkins posted in error to the account of T. Jenkinson.
- „ 23 Goods valued at £40 returned to R. Severn were posted in error to the account of R. Stern.
- „ 24 S. Hughes returned goods to us valued at £50 and we posted it in error to R. T. Hughes & Sons.
- „ 25 Private expenses £10 have been posted to office expenses account.
- „ 26 £10 was posted incorrectly from the credit of cash book to the debit of repairs account instead of to Robertshaw's account.
- „ 28 The purchase of letter scales valued at £1 10s. was posted to office expenses account instead of to office equipment account.

Closing Entries

The trading account and the profit and loss account are both ledger accounts. When at the end of the trading period entries are made in these accounts, the entries are posted from other ledger accounts. Journal entries should be made showing the accounts debited and those credited.

		£	s.	d.	£	s.	d.
	Trading account Dr.	95	0	0			
	To Purchases				10	0	0
	„ Wages				80	0	0
	„ Carriage inwards				5	0	0
	For transfer of balances.						

The above is a closing entry showing that the trading account has to be debited with the amount of purchases, wages and carriage inwards, and that a credit entry has to be made in each of these accounts with the wording "By Trading account."

		£	s.	d.	£	s.	d.
	Sales accountDr.	125	0	0			
	To Trading accountCr.				125	0	0
	For transfer of balances.						

The above indicates that the trading account is to be credited with the sales, and sales account closed with a debit entry, "To Trading account."

The opening or closing stock entries are important. You must remember

that, at the close of a period, the stock account is closed by transferring it to the debit of trading account.

Stock Account

To Balance .	£	s.	d.		By Trading % .	£	s.	d.
	100	0	0			100	0	0

Here is the closing entry :

Trading % Dr.	£	s.	d.	£	s.	d.
To Stock %	100	0	0	100	0	0
For stock at January 1 transferred.						

When the stock has been valued at the close of the period, the amount is placed on the debit of the stock account and on the credit of the trading account.

Stock Account

To Balance .	£	s.	d.		By Trading % .	£	s.	d.
	100	0	0			100	0	0
To Trading % .	120	0	0					

Here is the journal entry :

Stock % Dr.	£	s.	d.	£	s.	d.
To Trading %	120	0	0	120	0	0
For Stock at January 31.						

The gross profit is transferred from the trading account to the profit and loss account by the following journal entry :

Trading % Dr.	£	s.	d.	£	s.	d.
To profit and loss %	50	0	0	50	0	0
For transfer of gross profit.						

The profit and loss expenses are shown in the following journal entries :

Profit and loss % Dr.	£	s.	d.	£	s.	d.
To Carriage outwards	25	0	0	5	0	0
„ Rent				10	0	0
„ Salaries				10	0	0
For transfer of balances.						

The following is the closing entry for those balances which are transferred to the credit of profit and loss account :

	£	s.	d.	£	s.	d.
Discounts received Dr.	5	0	0			
Interest received Dr.	10	0	0			
To Profit and loss $\frac{1}{2}\%$				15	0	0
For transfer of balances.						

The following is the entry for the transfer of net profit :

	£	s.	d.	£	s.	d.
Profit and loss $\frac{1}{2}\%$ Dr.	40	0	0			
To Capital $\frac{1}{2}\%$				40	0	0
For transfer of net profit.						

The answers to the exercises are on page 321.

LESSON NINE

CLASSES OF LEDGER ACCOUNTS

LEDGER accounts can be subdivided into personal accounts and impersonal accounts in accordance with the following classification :

Personal Accounts—

1. Debtors accounts, which are in the sales ledger.
2. Creditors accounts, which are in the bought ledger.

Impersonal Accounts—

1. Real accounts, which are the accounts of :
 - (a) Assets such as plant, stock, cash in hand or at bank, all of which are debit balances.
 - (b) Liabilities such as loans, overdraft, capital, all of which are credit balances.
2. Nominal accounts, which are the accounts of :
 - (a) Expenses such as wages, discount allowed, repairs, purchases, all of which are debit balances.
 - (b) Profits such as discount received, interest received, and sales, which are credit balances.

Many firms place all impersonal accounts as we have done in the general ledger. Larger firms have two ledgers, a nominal and a private ledger, for their impersonal accounts. In the nominal ledger they place all nominal accounts, those accounts which are transferred at the close of the trading period to the trading or profit and loss account.

In the private ledger they place all real accounts, which are the accounts which are balanced down and appear in the balance sheet. The balance sheet of such a firm will consist of the balances from the private ledger and from the bought ledger and sales ledger.

When a private ledger is kept, the proprietor of the business usually makes

the entries. None of the clerks knows the value of his assets and liabilities. He may even keep the balance of his bank account in the private ledger, especially if he has an overdraft. The cash book kept by his office staff will have no opening balance, and the debit and the credit sides will be totalled up and not balanced. The debit and credit totals are given to the proprietor, who incorporates them in the bank account in the private ledger.

Bank Account

		£	s.	d.			£	s.	d.
To Balance	.	60	0	0	By Cash book,				
„ Cash book,					total of credit				
total of debit					items		1,190	0	0
items	.	1,230	0	0	„ Balance	c/d	100	0	0
		1,290	0	0			1,290	0	0
„ Balance	b/d	100	0	0					

Bank Account (Overdraft)

		£	s.	d.			£	s.	d.
To Cash book,					By Balance	.	2,050	0	0
total of debit					„ Cash book,				
items	.	1,230	0	0	total of credit				
„ Balance	c/d	2,010	0	0	items	.	1,190	0	0
		3,240	0	0			3,240	0	0
					By Balance	b/d	2,010	0	0

Classification of Assets

Assets may be divided into the following groups :

Fixed assets are assets of a permanent character. They are sometimes called capital assets. They are not bought to sell again, but are intended for use in the business. Some examples of fixed assets are land, buildings, plant and machinery.

Current assets or floating assets are those assets which are purchased or made with the intention of selling them. They change in form and amount daily. Stock, debtors, work-in-progress, bills receivable and cash are examples.

Fictitious assets are usually expenses or losses which are too great to be charged against the profits for the period in which they arise. They are shown as assets and gradually depreciated. Thus, the cost of floating a company—paying for the prospectus, stamp duty, legal and banking fees—is grouped under the heading preliminary expenses and this appears as an asset in the balance sheet, until it is completely written off by depreciation. Debenture discount, discussed in the lesson on companies, is another example. Again, in company accounts the profit or loss is not added to or subtracted from the capital. If the balance of profit and loss account appears on the assets side of the balance sheet, it represents a loss and is a fictitious asset.

EXERCISE 9A

From the following trial balance extracted from the books of R. Walker on December 31, 194... prepare trading account, profit and loss account and balance sheet.

	Dr.			Cr.		
	£	s.	d.	£	s.	d.
SALES LEDGER—						
R. Farris . . .	80	0	0			
P. Greenwood. . .	120	0	0			
BOUGHT LEDGER—						
S. Sims . . .				140	0	0
T. Stevens . . .				110	0	0
NOMINAL LEDGER—						
Purchases . . .	500	0	0			
Purchases returns . . .				35	0	0
Sales . . .				850	0	0
Sales returns . . .	60	0	0			
Wages . . .	50	0	0			
Salaries . . .	40	0	0			
Discount allowed . . .	2	0	0			
Carriage inwards . . .	12	0	0			
Carriage outwards . . .	20	0	0			
Discount received . . .				5	0	0
Travelling expenses . . .	6	0	0			
PRIVATE LEDGER—						
Plant and machinery . . .	400	0	0			
Motor vans . . .	200	0	0			
Stock . . .	160	0	0			
Loan from H. Hughes . . .				500	0	0
Investments . . .	200	0	0			
Cash in hand . . .	40	0	0			
Cash at bank. . .	150	0	0			
Capital account . . .				400	0	0
	2,040	0	0	2,040	0	0

The Stock at close was £170.

EXERCISE 9B

Make a classification of ledger accounts. Give two examples of each type, and state in which section of the ledger they will appear, and whether they will be shown in the trading account or profit and loss account or in the balance sheet.

EXERCISE 9C

From the following trial balance extracted from the books of H. Wood, on December 31, 194..., prepare trading account, profit and loss account and balance sheet.

	<i>Dr.</i>			<i>Cr.</i>		
	<i>£</i>	<i>s.</i>	<i>d.</i>	<i>£</i>	<i>s.</i>	<i>d.</i>
BOUGHT LEDGER—						
S. Frampton . . .				215	0	0
R. Collis . . .				243	0	0
SALES LEDGER—						
T. Saul . . .	46	0	0			
L. Serle . . .	60	0	0			
NOMINAL LEDGER—						
Purchases . . .	600	0	0			
Sales . . .				790	0	0
Returns in and out .	41	0	0	47	0	0
Discounts allowed .	8	0	0			
Discounts received				10	0	0
Wages . . .	70	0	0			
Salaries . . .	110	0	0			
Commission . . .	10	0	0			
Heat, light, water .	30	0	0			
National insurance	5	0	0			
Carriage on purchases	10	0	0			
Interest received .				10	0	0
PRIVATE LEDGER—						
Bank account overdraft				420	0	0
Cash in hand . . .	10	0	0			
Plant and machinery	600	0	0			
Drawings . . .	300	0	0			
Stock . . .	120	0	0			
Capital . . .				485	0	0
Investment . . .	200	0	0			
	2,220	0	0	2,220	0	0

Closing Stock £110.

EXERCISE 9D

The Books of S. Shaw show the following balances on January 1, 194.... Stock £500, cash at bank £100, plant and machinery £200; creditor: L. Lever £150; debtors: T. Edgar £100, S. James £250. Prepare opening entry and so find his capital. Enter in ledger. Enter the following trans-

actions in the books of original entry, post to ledger and take out a trial balance. Bank cheques received same day.

Jan. 1 Purchased from Lever, paints £120.

" 2 Cashed cheque for office cash £10.

" 3 Sold to T. Edgar—

6 40-gallon barrels red oxide paint at 10s. per gallon of the following shades: brown, light green, cream, stone, grey, chocolate.

Invoice subject to 10 per cent trade discount.

" 4 T. Edgar paid his December account and we allowed him 2½ per cent cash discount.

" 8 Paid L. Lever his account for December and was allowed 2½ per cent cash discount.

" 10 T. Edgar returned 1 40-gallon barrel of brown paint.

" 14 Sold to S. James—

40 gallons of aluminium paint at £1 10s. a gallon.

40 lbs. aluminium powder at 9s. a lb.

12 gallons medium at 25s. a gallon.

The whole invoice subject to 10 per cent trade discount.

" 20 S. James paid on account £200.

" 24 S. Shaw bought new machine costing £50 on credit from Paint Machine Manufacturing Co., Ltd.

" 28 Paid rent £12.

" 29 Paid wages £8.

The answers to the exercises are on pages 321-322.

LESSON TEN

TABULAR BOOK-KEEPING

THE modern trend in book-keeping is to use tabulation wherever possible. If a merchant sells three types of goods—cottons, linens and woollens—it is not sufficient that he should know the gross profit on the trading. He ought in addition to know what profit or loss he is making on each line of goods. He might be making a loss on linens, but the profits on cottons and woollens would hide the loss, if only one gross profit for the business was calculated.

Similarly a departmental store must know what profit or loss it is making on each of its departments. Otherwise a failing department might be carried for years by the others. By having departmental accounts it is possible to watch the progress of each department. No one department will be permitted to make too much gross profit, for the high prices may frighten away customers, not only from that department, but from the store in general. If a department repeatedly shows small profits or losses, efforts may be made to boost the sales by means of advertising, or by changing the lines or by changing the buyer; if there is no improvement the department may be closed. Of course, a store may deliberately run a department at a loss, because of its advertising value or to prevent competitors providing this

service ; but the book-keeping system must be such that the store knows what the loss is.

Similarly an hotel requires to know what profit is made on its rooms, on its dining-room, on its bar, and on its billiard-room, and must be in a position to give each guest the account promptly on leaving. All these things can be realized by tabulation.

What Is Tabular Book-keeping ?

Tabulation consists of having extra analysis columns, one for each class of goods, in the purchases, sales and returns books and in the purchases, sales, returns and stock accounts and in the trading account and profit and loss account.

EXERCISE 10A

H. Robotham has two departments selling cottons and linens. A sales book on ordinary lines would be as follows :

SALES BOOK

			£	s.	d.	£	s.	d.
Jan. 1	S. Snape & Sons	SL 1	15	0	0			
	Cotton sheets		30	0	0			
	Damask cloths							
	Less trade discount 33 $\frac{1}{3}$ %		45	0	0			
			15	0	0	30	0	0
" 4	R. J. Barr	SL 2	10	0	0			
	Cotton pillow cases, net		15	0	0			
	Linen serviettes, net					25	0	0

A tabular sales book for the above would be :

Date	Name	SL Folio	Invoice No.	Amount			Cottons			Linens		
Jan. 1	S. Snape & Sons	SL 1	125	£	s.	d.	£	s.	d.	£	s.	d.
" 4	R. J. Barr	SL 2	126	30	0	0	10	0	0	20	0	0
				25	0	0	10	0	0	15	0	0
				55	0	0	20	0	0	35	0	0

EXERCISE 10B

Rule a purchases book for a store having four departments A, B, C, and D, and record therein the following purchases :

		£	s.	d.
May 1	From Jones and Brown, goods for Dept. A	20	0	0
	Dept. C	30	0	0
	Dept. D	25	0	0

TABULATED TRADING ACCOUNT

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May 3	From Hughes & Sons. goods for .	Dept. B	30	0	0
		Dept. C	10	0	0
		Dept. D	20	0	0
„ 8	From T. Buck, goods for .	Dept. A	15	0	0
		Dept. B	20	0	0
		Dept. C	30	0	0
„ 10	From S. Jenkins, goods for .	Dept. C	15	0	0
		Dept. D	25	0	0

Rule a tabulated purchases account to which the total purchases should be posted.

Post the personal accounts in the bought ledger in the usual way.

EXERCISE 10C

Tabulated Trading Account

From the following particulars find the gross profit made by S. Tomson during the month of April, and show the profit or loss made by each department.

		£	s.	d.		£	s.	d.
Purchases for month	Department A	200	0	0	Department B	300	0	0
Opening stock .	„ A	50	0	0	„ B	60	0	0
Sales for month .	„ A	340	0	0	„ B	520	0	0
Closing stock .	„ A	30	0	0	„ B	20	0	0

Trading Account for Month ended April 30, 194...

	Total			A			B				Total			A			B		
	£	s.	d.	£	s.	d.	£	s.	d.		£	s.	d.	£	s.	d.	£	s.	d.
To Stock.	110	0	0	50	0	0	60	0	0	By Sales	860	0	0	340	0	0	520	0	0
„ Purchases	500	0	0	200	0	0	300	0	0	„ Stock	50	0	0	30	0	0	20	0	0
„ Balance being gross profit	300	0	0	120	0	0	180	0	0										
	910	0	0	370	0	0	540	0	0		910	0	0	370	0	0	540	0	0

The whole store shows a percentage of gross profit to sales of $\frac{300}{860} \times 100$

or 34'9.

Department A shows a percentage of $\frac{120}{340} \times 100$ or 35'3.

Department B shows a percentage of $\frac{180}{520} \times 100$ or 34'6.

If there are returns outwards it is necessary to subtract them from the purchases and write the opening stock below :

	£	s.	d.	£	s.	d.	£	s.	d.
To Purchases	530	0	0	210	0	0	320	0	0
„ Less returns	30	0	0	10	0	0	20	0	0
	500	0	0	200	0	0	300	0	0
„ Stock	110	0	0	50	0	0	60	0	0

Tabulated Profit and Loss Account

Some firms are content to find the gross profits for each department and make no attempt to find a net profit for each. They have an ordinary profit and loss account, posting the total gross profit to the credit side.

Other firms divide the expenses between the departments and thus are able to find the net profit for each department. The expenses may be shared equally between the departments, or at some agreed percentage, or the expenses may be apportioned on the basis of sales.

In Exercise 10D the latter is the method used. To avoid elaborate calculations, tables or a slide rule could be used, for it is not possible in business to arrange for the sales to be in such an easy proportion of $\frac{1}{2}$, $\frac{1}{3}$ and $\frac{1}{6}$ as in the following exercise.

EXERCISE 10D

Trading account for month ended October 30.

	Total	A	B	C		Total	A	B	C
	£ s. d.	£ s. d.	£ s. d.	£ s. d.		£ s. d.	£ s. d.	£ s. d.	£ s. d.
To Stock	71 0 0	10 0 0	8 0 0	5 0 0	By Sales	152 0 0	85 0 0	56 0 0	27 0 0
„ Purchases	120 0 0	40 0 0	50 0 0	20 0 0	„ Stock	27 0 0	5 0 0	10 0 0	12 0 0
„ Balance, Gross profit c/d	46 0 0	35 0 0	14 0 0	0 0 0	„ Balance: Gross loss c/d			4 0 0	
	187 0 0	85 0 0	68 0 0	30 0 0		189 0 0	85 0 0	58 0 0	39 0 0

Notice that Department B has a loss of £4. If the amount is subtracted from the addition of the profits of A and C, it gives the total profit.

Profit and Loss Account for month ended October 30.

	Total	A	B	C		Total	A	B	C
	£ s. d.	£ s. d.	£ s. d.	£ s. d.		£ s. d.	£ s. d.	£ s. d.	£ s. d.
To Gross loss	b/d		4 0 0		By Gross profit	b/d	45 0 0	35 0 0	14 0 0
„ Wages and salaries	18 0 0	9 0 0	6 0 0	3 0 0	„ Balance, Net loss			14 0 0	
„ Rent	12 0 0	5 0 0	4 0 0	2 0 0		45 0 0	35 0 0	14 0 0	14 0 0
„ Balance, net profit	16 0 0	21 0 0	9 0 0	0 0 0					
	46 0 0	35 0 0	14 0 0	14 0 0					

In the balance sheet the total profit of £16 will be shown as an addition to capital.

Purchase Tax

Tabular book-keeping is useful in connexion with purchase tax. When this is chargeable, the amount has to be shown on the invoice. The seller of goods has to collect from the purchaser not merely the price of the goods, but purchase tax on those goods and this amount he owes to the government.

An extra column is required in the sales book for the purchase tax.

Date	Name	SL Folio	Invoice Number	Purchase Tax	Amount (including tax)
				£ s. d.	£ s. d.

According to the system employed by the business, the column for amount may include the purchase tax and will therefore be the amount the debtor owes, or it may not include tax, in which case the total of the entries in both columns will be the amount owed. A similar ruling is used for the purchases book and the returns books. Ledger paper with two debit and two credit columns will be required.

				<i>Tax</i>				<i>Total</i>			
				£	s.	d.		£	s.	d.	

A total column may include the tax, and then it represents the amount owed for both the goods and the tax, or it may be for the value of the goods alone. The cash book will have an additional column on either side for cash received or paid on account of purchase tax.

EXERCISE 10E

The following balances are taken from the books of R. Harrison. You are required to prepare trading account and profit and loss account as on December 31. Expenses are to be apportioned on the basis of the sales of the three departments. Also prepare balance sheet as on December 31.

	<i>Dept.</i>	£	s.	d.	<i>Dept.</i>	£	s.	d.	<i>Dept.</i>	£	s.	d.
Opening stock	A	50	0	0	B	60	0	0	C	40	0	0
Purchases	A	800	0	0	B	1,100	0	0	C	900	0	0
Sales	A	1,200	0	0	B	1,600	0	0	C	800	0	0
Returns outwards					B	40	0	0	C	20	0	0

Capital £1,960, creditors £105, debtors £210, cash in hand £10, cash in bank £280, fixtures and fittings £1,600, wages and salaries £360, rent and rates £279, expenses £108, discount received £72; stocks at close, Dept. A £120, Dept. B £180, Dept. C £60.

The answers to the exercises are on page 322.

LESSON ELEVEN

BANK CASH BOOK AND PETTY CASH

MANY firms have dispensed with the three column cash book. All money received is paid the same day into the bank, and all payments are made by cheque with the exception of small items which are paid out of petty cash. There is therefore no need to have a cash column in the cash book, which will require a discount column and a bank column on the debit and credit sides. The column formerly used for cash can be used now for details. Thus, on the debit side, all the cheques received will be entered in the details column, and when they are taken to the bank the total

banked will be entered in the bank column. This figure will agree with the paying-in counterfoil stamped by the bank and the entry in the bank pass book; and it can be easily checked by the auditor. The details column on the credit side is not of great value, and is seldom used except where the firm draws one cheque for two purposes. Suppose it drew one cheque for wages and petty cash, the amount for each would be shown in the details column and the total of the cheque in the bank column. The auditor will compare the entries in the bank column with the counterfoils of the cheques. If a cheque is drawn for two purposes, the details will be shown on the counterfoil.

SIMPLE FORM OF BANK CASH BOOK

*Dr.**Cr.*

<i>Date</i>			<i>Dis. All.</i>	<i>Details</i>			<i>Bank</i>			<i>Date</i>			<i>Dis. Rec.</i>	<i>Details</i>			<i>Bank</i>		
				£	s.	d.	£	s.	d.					£	s.	d.	£	s.	d.
Jan. 1	To Balance	.					100	0	0	Jan. 1	By Cox	.							
" 2	" Smith	.	1	49	0	0				" 2	" Hughes	.					20	0	0
" 2	" Jones	.		25	0	0				" 2	" Wages	.		10	0	0			
							74	0	0	" 2	" Petty cash	.		10	0	0	20	0	0

Firms using bank cash books usually have extra columns for analysis purposes. To know the total of cash sales and the total received from debtors during a month, is very useful and can be easily found from the cash book, by having two extra columns for the purpose on the debit side. Similarly on the credit side, two analysis columns can be provided so that the total amount paid to creditors and the total paid for cash purchases can be readily found from the cash book. An extra column is also provided on either side for sundry receipts and sundry payments. There is usually no details column as in the simpler form.

Let us consider first the debit side. Every entry in the bank column represents money received either from a debtor or from a cash sale or from some other purpose. Therefore, for every amount in the bank column, the same amount will be written in the sales ledger or in cash sales or in the sundries column. The total of the amounts received in the bank column will equal the totals of the three analysis columns. To make this possible the opening balance must be written in the sundries column. Only the items in the bank and the discounts columns are posted to the ledger accounts. The analysis columns are not posted.

On the credit side every entry in the bank column represents a cheque paid either to a creditor or for a cash purchase or for some other purpose. Consequently, every entry in the bank column will be written in one of the three analysis columns and the total of these three will agree with the total of the bank column. To ensure this, the closing balance found will be entered in the sundries column. The bank and discount entries alone are posted to the ledger. Only one column on either side, the bank column, is balanced; all other columns are totalled up. The bank columns should be balanced before the other columns are totalled in order that the amount of the balance may be entered in the sundries column before that column is totalled.

EXERCISE 11A

From the following items prepare bank cash book of R. Shaw for the month of June, and show the totals of cash sales and purchases and the total amounts received from debtors and paid to creditors during the month.

		£	s.	d.
June 1	Balance brought down	100	0	0
" 2	Paid Smith's account of £40 and was allowed £1 discount.			
" 2	Cash sales	80	0	0
" 3	Received cheque for £60 from Cox in settlement of his account of £62.			
" 3	Cash sales	30	0	0
" 4	Brought in additional capital	200	0	0
" 4	Cash purchases	110	0	0
" 6	Paid rent	10	0	0
" 7	Cashed cheque for wages £12 and petty cash £4.			
" 8	Bridge paid us £50 in settlement of his account of £51.			
" 8	Paid Rogers £48 in settlement of account of £50.			
" 8	Received cheque from Jones £70 and allowed him £2 discount.			
" 10	Sold old typewriter for £10.			
" 11	Cash sales	50	0	0

		Discount			Sales Ledger			Cash Sales			Sundries			Bank		
		£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
June 1	To Balance . . . b/d										100	0	0	100	0	0
" 2	" Cash sales							80	0	0				80	0	0
" 3	" Cox	2	0	0	60	0	0							60	0	0
" 3	" Cash sales							30	0	0				30	0	0
" 4	" Capital										200	0	0	200	0	0
" 8	" Bridge	1	0	0	50	0	0							50	0	0
" 8	" Jones	2	0	0	70	0	0							70	0	0
" 10	" Office furniture % (sale of old typewriter)										10	0	0	10	0	0
" 11	" Cash sales							50	0	0				50	0	0
		5	0	0	180	0	0	160	0	0	310	0	0	550	0	0
July 1	To Balance . . . b/d										427	0	0	427	0	0

		Discount			Bought Ledger			Cash Purchases			Sundries			Bank		
		£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
June 2	By Smith	1	0	0	39	0	0							39	0	0
" 4	" Cash purchases							110	0	0				110	0	0
" 6	" Rent										10	0	0	10	0	0
" 7	" Petty cash										4	0	0			
" 7	" Wages										12	0	0	16	0	0
" 8	" Rogers	2	0	0	48	0	0							48	0	0
" 30	" Balances c/d										427	0	0	427	0	0
		3	0	0	87	0	0	110	0	0	453	0	0	550	0	0

EXERCISE 11B

Rule a bank cash book with appropriate columns and enter the following items. Receipts are banked each day.

- Jan. 1 Balance in bank £100.
 „ 1 Gave petty cashier £10.
 „ 1 Paid T. Butt £84 10s. and was allowed £2 10s. discount.
 „ 3 Sold goods for cash £12.
 „ 3 Received from S. Parsons £38 10s. and allowed discount £1 10s.
 „ 3 Cash purchases £16.
 „ 6 Cash sales £20.
 „ 6 Received from E. Jackson £18 10s. in settlement of her account of £19.
 „ 6 Bought from E. Gruchy goods and gave cheque £26.
 „ 6 Paid K. Robertson £19 12s. 6d. and was allowed discount 7s. 6d.
 „ 8 Sold goods for cash £14 9s. 6d.
 „ 8 Bought goods for cheque from B. Aulton £23 8s. 6d.
 „ 8 Gave petty cashier £9 2s. 6d.
 „ 8 Received from M. Sims cheque £28 10s. and allowed discount of £1 10s.
 „ 9 Paid electric light £14.
 Balance as on January 31, and bring down the balance.

EXERCISE 11C

Enter the following transactions in a bank cash book. Receipts are banked daily.

- Feb. 1 Balance in hand £60.
 „ 2 Received from A. Webber £23 15s. in settlement of account for £25.
 „ 2 Cash sales £18 12s. 6d.
 „ 2 Paid B. Newman £28 5s. 6d. and was allowed £1 9s. 3d. discount.
 „ 2 Paid to petty cashier £10.
 „ 2 Paid into bank additional capital £100.
 „ 3 Sold to S. Angel goods and received cheque £72.
 „ 3 Paid N. Gowenlock £49 8s. and was allowed discount £2 12s.
 „ 3 Bought goods for cash from C. Martel £50.
 „ 3 Paid gas bill £8 12s. 6d.
 „ 4 Cash purchases from H. Bassett £23 10s.
 „ 4 Cash sales £28.
 „ 4 Received from K. Munzing £15 4s. and allowed 16s. discount.
 Balance as on February 28, and bring down balances.

Petty Cash Book

The cashier of the firm does not want to be troubled to pay out small items and so have line after line of small expenses in his cash book.

Instead, he gives a small amount of money to a junior clerk, who pays out these small amounts, and on a voucher obtains signatures for the money. He enters the amount he receives in the debit column of the petty cash book, and on the credit column any amounts he pays out. At any moment the total of the amounts he has paid out together with the amount of cash in hand must equal the amount given to him by the cashier.

The modern method of petty cash is to give the clerk in charge of the

petty cash a certain sum of money at the beginning of the month. This sum is known as the imprest. At the end of the month he tells the cashier how much he has spent and receives from him an equivalent amount. The imprest amount will appear at the end of the period in the trial balance and on the assets side of the balance sheet.

There are two methods of balancing a petty cash book kept on the imprest method. In the first method, the clerk balances his book and brings down the balance in hand ; then the cashier gives him the amount he has spent.

		£	s.	d.			£	s.	d.
Jan. 1	To Cash . . .	1	0	0	Jan. 2	By Postage . .	1	0	
					" 3	" Cleaning . .	2	0	
					" 4	" Stationery . .	3	0	
					" 8	" Postage . .	1	0	
					" 31	" Bal. c/d . .	13	0	
		1	0	0			1	0	0
Feb. 1	To Balance b/d		13	0					
" 1	" Cash . . .		7	0					

In the second method, before he brings down the balance, the clerk tells the cashier the amount he has spent. The cashier gives him that amount. Then the clerk brings down his balance, which will be of course the imprest.

		£	s.	d.			£	s.	d.
Jan. 1	To Cash . . .	1	0	0	Jan. 2	By Postage . .	1	0	
" 31	" Cash . . .		7	0	" 3	" Cleaning . .	2	0	
					" 4	" Stationery . .	3	0	
					" 8	" Postage . .	1	0	
					" 31	" Balance c/d	1	0	0
		1	7	0			1	7	0
Feb. 1	To. Balance b/d	1	0	0					

Some petty cash paper has one column only for the date and particulars. On such paper the above would appear as follows :

£	s.	d.				£	s.	d.
1	0	0	Jan. 1	Cash				
			" 2	Postage		1	0	
			" 3	Cleaning		2	0	
			" 4	Stationery		3	0	
			" 8	Postage		1	0	
	7	0	" 31	Cash				
			" 31	Balance	c/d	1	0	0
1	7	0				1	7	0
1	0	0	Feb. 1	Balance	b/d			

If a number of analysis columns is drawn on the right of the payments column, the various petty cash payments can be analysed. So when the clerk tells the cashier the amount he has spent during the period, he also tells him of what the payments consist, so much for stationery, so much for carriage, and so forth. The cashier can then post the totals of the columns to the debit of the various accounts, such as carriage, postage, cleaning.

The headings of the analysis columns will vary not only according to the type of business but also between firm and firm of a particular type. Some large firms pay even small amounts by cheque, and pay only trivial sums out of petty cash. Some smaller firms pay quite important items such as wages and cash purchases out of petty cash.

In the petty cash book of a grocer, the items of petty cash might be classified as cash purchases, delivery expenses, packing material, sundry expenses, and ledger. The cash purchases column will be for items of a perishable nature; his main purchases will be paid for by cheque. The delivery expenses will include petrol and oil and minor repairs to van. In packing material will be small articles; the main items will be bought in bulk. Sundry expenses will include all other expenses. The ledger column is intended for amounts paid for other purposes than expenses, especially for assets of a trivial character, or for small sums given for goods returned. With the exception of the entries in the ledger column, none of the entries is posted separately to the ledger. Instead, the totals of analysis columns are posted to the debit of the particular expense account underneath the amounts paid during the period by cheque. Thus, under the total of the cash purchases column is written GL 1 to show that the amount has been posted to the debit of purchases account.

EXERCISE 11D

Write up the petty cash book of T. Cake, Baker. He received £10 to start, and makes the following payments.

		£	s.	d.
Jan.	1	Veal and ham pies	8	0
"	3	Petrol and oil	5	2
"	5	Packing materials	3	6
"	8	Petrol and oil	8	6
"	9	Sausages	7	6
"	10	String for parcels	1	0
"	11	Cleaning plugs of van	2	6
"	13	Petrol and oil	7	6
"	16	Pork pies	9	0
"	18	Electric light bulbs	4	0
"	20	Payment for testing weights	10	0
"	21	Petrol and oil	7	9
"	23	Sausages	8	6
"	25	Bought new weights for scales	15	0
"	28	Petrol and oil	5	2
"	30	Veal and ham pies	9	0
"	31	Received from cashier amount required to make up imprest.		

Note that the item for testing weights on January 20 is an expense, but that on the 25th is for the purchase of an asset. It must therefore be posted to an asset account. The reference in the preceding folio column shows that it has been posted to shop fittings account.

PETTY CASH BOOK

Date	Particulars	Amount			Date	Particulars	Amount			Cash Purchases	Delivery Expenses	Packing Materials	Sundry Expenses		Ledger			
		£	s.	d.			£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
Jan. 1	Cash	10	0	0	Jan. 2	Veal and ham pies	8	0	0	8	0	0						
" 31	Cash	5	12	1	" 3	Petrol and oil	5	2	0			5	2					
					" 5	Packing material	3	6	0				3	6				
					" 8	Petrol and oil	8	6	0			8	6					
					" 9	Sausages	7	5	0	7	5							
					" 10	String	1	0	0				1	0				
					" 11	Cleaning plugs of van	2	6	0			2	5					
					" 13	Petrol and oil	7	6	0			7	6					
					" 15	Pork pies	9	0	0	9	0							
					" 18	Electric light bulbs	4	0	0					4	0	0		
					" 20	Testing weights	10	0	0					10	0	0		
					" 21	Petrol and oil	7	9	0			7	9					
					" 23	Sausages	8	5	0	8	5							
					" 25	New weights	15	0	0							15	0	0
					" 28	Petrol and oil	5	2	0			5	2					
					" 30	Veal and ham pies	9	0	0	9	0							
					" 31	Balance c/d	5	12	1	2	2	0	1	15	7	4	6	0
							10	0	0		GL 1			GL 5			GL 9	
							15	12	1								GL 14	
Feb. 1	Balance b/d	10	0	0														

EXERCISE 11E

Redgrave, solicitors, analyse their petty cash into postages, office sundries, cleaning, travelling, ledger.

		£	s.	d.
Jan. 1	Balance in hand	2	15	6
" 1	Cash to make up imprest	2	4	6
" 2	Cleaning		5	0
" 2	Postages		2	0
" 3	Gloy		2	6
" 4	Postages		3	3
" 4	Paper clips		1	0
" 5	Railway fare and subsistence	2	2	6
" 6	Stapler	1	1	0
" 7	Cleaning		5	0

Bring down balance on the 7th, and on the following day receive from cashier amount to make up imprest.

EXERCISE 11F

In the petty cash book of R. Rhodes, baker and confectioner, write headings for cash purchases, delivery expenses, repairs and maintenance, postage

and ledger and enter the following items. On the last day of the month receive from the cashier the necessary amount to maintain the imprest of £5.

		£	s.	d.
March	1	Balance b/d £5.		
"	1	Purchased bottle of colouring essence		18 0
"	4	Petrol and oil		5 6
"	7	New washers on taps		4 0
"	9	Petrol and oil		7 0
"	12	Electric light bulbs		4 6
"	18	New wicker basket		15 0
"	20	Oil and greasing van		6 0
"	20	Petrol		6 0
"	25	New wooden trays		18 0
"	29	Petrol and oil		7 0

The answers to the exercises are on pages 322-323.

LESSON TWELVE

BANK RECONCILIATION STATEMENTS

SINCE the entries in the bank column of the cash book should be identical with those in the pass book written up by the bank, the balances at any time should be the same. At the end of the trading period it frequently happens that the balances do not agree. There are various reasons why they do not.

Cheques received by us towards the end of the period may be entered in our cash book, but as the clearing of the cheques requires several days, the bank will not have entered them in the pass book. By clearing, we mean the process by which our banker collects the proceeds of the cheque from the banker of the person who gave it to us.

Cheques we give to creditors will be entered in the credit of our cash book, but if a creditor does not present that cheque for some days the amount will not be deducted meantime from our pass book.

The bank may have given us interest and entered it in our pass book. As, at the time of balancing, we did not know the amount of interest, it is not entered in the debit of our cash book.

The bank may have collected dividends for us and debited our pass book, but we have not entered the amount in our cash book.

The bank may have charged us bank charges, which will appear in our pass book. As, at the time of balancing, we do not know these amounts, we omit them from the credit of cash book. Sometimes the bank gives one amount for bank charges and interest; in this case we can usually assume that bank charges are greater than the interest and treat the amount as a deduction from our own bank account.

Some bank pass books have the money paid in on the credit side and the money paid out on the debit side, but this does not affect the position.

A bank reconciliation statement attempts to show why the bank column balance is different from that in the pass book. It is usually written as a permanent record in the space occupied by the date and details columns in the debit side of the cash book. It starts with the balance in pass book and shows the cheques or payments omitted and by addition and subtraction arrives at the balance in the cash book.

To see how a bank reconciliation statement is prepared let us take certain items separately.

CASH BOOK <i>Debit Side</i>					PASS BOOK <i>Debit Side</i>				
		£	s.	d.			£	s.	d.
To Balance	.	100	0	0	To Balance	.	100	0	0
„ Cheques A	.	20	0	0	„ Cheques A	.	20	0	0
„ „ B	.	30	0	0	„ „ B	.	30	0	0
„ „ C	.	15	0	0					
„ „ D	.	10	0	0					

In the above example the cash book and pass book balances agree at the beginning of the period. During the period, four cheques were received and entered on the debit of cash book but only two have been cleared and entered in the pass book. The bank reconciliation would be :

		£	s.	d.	£	s.	d.
Balance as per pass book	.	150	0	0			
Add cheques not cleared	C	15	0	0			
	D	10	0	0			
					25	0	0
Balance as per cash book	.	175	0	0			

Again, supposing three cheques X, Y and Z were paid out by us and entered on the credit of cash book, but two only, X and Z, had been presented for payment and so entered on the credit of our pass book.

CASH BOOK

		£	s.	d.			£	s.	d.
To Balance	.	100	0	0	By Cheques X	.	30	0	0
„ Cheque A	.	20	0	0	„ „ Y	.	35	0	0
„ „ B	.	30	0	0	„ „ Z	.	25	0	0
„ „ C	.	15	0	0	„ Balance	c/d	85	0	0
„ „ D	.	10	0	0					
		175	0	0			175	0	0
To Balance	b/d	85	0	0					

BOOK-KEEPING

PASS BOOK

		£	s.	d.			£	s.	d.
To Balance	.	100	0	0	By Cheque X	.	30	0	0
" " A	.	20	0	0	" " Z	.	25	0	0
" " B	.	30	0	0	" Balance	.	95	0	0
		150	0	0	c/d		150	0	0
To Balance	b/d	95	0	0					

Bank Reconciliation Statement

	£	s.	d.	£	s.	d.
Balance as per pass book	.	.	.	95	0	0
Add cheques not cleared—C	.	.	.	15	0	0
—D	.	.	.	10	0	0
				25	0	0
				120	0	0
Less cheque not presented—Y	.	.	.	35	0	0
				85	0	0
Balance as per cash book	.	.	.			

Again, let us consider the effect of interest which the bank puts into our pass book and of dividends collected by the bank on our behalf.

CASH BOOK

	£	s.	d.
To Balance	100	0	0

PASS BOOK

	£	s.	d.
To Balance	100	0	0
" Interest	2	0	0
" Dividends on investments	10	0	0

Bank Reconciliation Statement

	£	s.	d.	£	s.	d.
Balance as per pass book.	.	.	.	112	0	0
Less Interest	.	.	.	2	0	0
" Dividends on investments	.	.	.	10	0	0
				12	0	0
Balance as per cash book	.	.	.	100	0	0

Similarly, consider the effect of bank charges taken out of our pass book.

BANK RECONCILIATION STATEMENT

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CASH BOOK

	£	s.	d.
To Balance	100	0	0
	100	0	0

PASS BOOK

	£	s.	d.		£	s.	d.
To Balance	100	0	0	By Bank charges	5	0	0
				„ Balance c/d	95	0	0
	100	0	0		100	0	0
To Balance	95	0	0				

Bank Reconciliation Statement

	£	s.	d.
Balance as per pass book	95	0	0
Add bank charges	5	0	0
Balance as per cash book	100	0	0

Let us consider an example with these various points included.

EXERCISE 12A

The pass book of T. Rowe showed a balance on December 31 of £154. On the same day his cash book had a balance in the bank column of £160. The following cheques drawn by Rowe had not been presented for payment : Roberts £38, Cowley £56. The following cheques received by Rowe had not been cleared through the bank : Redfern £80, Pink £32. The bank had entered two items in the pass book : bank charges £3, dividends on investments collected £15.

Prepare bank reconciliation statement.

Bank Reconciliation Statement December 31, 194..

	£	s.	d.	£	s.	d.
Balance as per pass book				154	0	0
Add cheques not cleared—						
Redfern	80	0	0			
Pink	32	0	0			
Add bank charges	3	0	0	115	0	0
				269	0	0
Less cheques not presented—						
Roberts	38	0	0			
Cowley	56	0	0			
Less dividends on investments	15	0	0	109	0	0
Balance as per cash book				160	0	0

BOOK-KEEPING

EXERCISE 12B

After comparing the entries in the cash book and pass book make out a bank reconciliation statement as on December 31.

CASH BOOK

		£	s.	d.			£	s.	d.
Dec. 26	To Balance .	100	0	0	Dec. 29	By T. Gordon .	36	0	0
" 27	" R. Rhodes .	20	0	0	" 30	" P. Stokes .	29	0	0
" 29	" J. James .	18	0	0	" 31	" R. Hopkins	40	0	0
" 30	" D. Nicholson	19	0	0	" 31	" Balance . c/d	77	0	0
" 31	" A. Walker .	25	0	0					
		182	0	0			182	0	0
Jan. 1	To Balance . b/d	77	0	0					

PASS BOOK

		£	s.	d.			£	s.	d.
Dec. 26	To Balance .	100	0	0	Dec. 31	By T. Gordon .	36	0	0
" 29	" R. Rhodes .	20	0	0	" 31	" Bank charges .	4	0	0
" 30	" Dividends .	24	0	0	" 31	" Balance . c/d	122	0	0
" 31	" J. James .	18	0	0					
		162	0	0			162	0	0
Jan. 1	To Balance . b/d	122	0	0					

When the balance in the pass book is an overdraft, some people prefer to start from the balance as shown in the cash book and work towards the balance shown in the pass book. If, however, you think of the overdraft as a minus quantity there is no need to alter the usual order.

		£	s.	d.
Balance as per pass book	Overdraft (—)	200	0	0
Add cheques not cleared	(+)	30	0	0
	Unfavourable (—)	170	0	0
Less cheques not presented	(—)	20	0	0
Balance as per cash book	Overdraft (—)	190	0	0

EXERCISE 12C

The balance in cash book was £65 on December 31. The pass book showed an overdraft of £134. A cheque for A. Dunford for £27 had been drawn but not presented for payment. The bank charge amounted to £3. Cheques from Sanders £188 and Tilson £35 had been paid into bank but not yet recorded in the pass book.

EXERCISE 12D

Compare cash and pass books and prepare reconciliation statement.

CASH BOOK

		£	s.	d.			£	s.	d.
Dec. 26	To Balance .	78	0	0	Dec. 29	By F. Tuck .	28	0	0
" 27	" A. Wiltshire .	18	0	0	" 30	" R. Robins .	39	0	0
" 28	" B. Bray .	32	0	0	" 30	" G. Beveridge	15	0	0
" 29	" S. Mitchell .	16	0	0	" 31	" T. Spencer .	19	0	0
" 30	" H. Hunt .	27	0	0	" 31	" R. Page .	36	0	0
" 31	" T. Dolman .	41	0	0	" 31	" Cheque book	1	0	0
					" 31	" Balance .	74	0	0
		212	0	0			212	0	0
Jan. 1	To Balance .	74	0	0					

PASS BOOK

		£	s.	d.			£	s.	d.
Jan. 1	To Balance .	76	0	0	Jan. 2	By R. Page .	36	0	0
" 2	" B. Bray .	32	0	0	" 3	" H. Willoughby	56	0	0
" 2	" F. Buckland .	90	0	0	" 3	" R. Robins .	39	0	0
" 3	" T. Dolman .	41	0	0	" 4	" F. Martin .	20	0	0
" 4	" J. Franks .	21	0	0					

In the above exercise the balance in the pass book on January 1 must have been the balance on December 31. Any cheques which are not cleared in December can be selected from those shown in the pass book for January, because they will appear in the cash book for December. Similarly any entry, which appears on the credit side of cash book for December and on the credit side of pass book for January, will represent cheques not presented before December 31.

LESSON THIRTEEN

ADJUSTMENTS AT CLOSE OF TRADING PERIOD

Depreciation

SUPPOSING you buy a car for £200. Five years later you tell a friend you have a car worth £200, and he laughs at you. You offer the car for sale and sell it for £40. The car cost you £200. Five years later it is worth £40. It has reduced in value £160. In other words the cost of keeping that car for five years was £160, ignoring all expenses of running the car. If you were a business man you would be justified in charging the £160 as an expense of the business, that is charging it to profit and loss account. You might charge £32 each year, arguing that the car loses that value each year. More probably you would charge a large sum in the first and second years and less in the remaining years.

During a process of years assets such as machinery lose value due to wear and tear. An asset such as leasehold property loses value merely by the passing of time. Thus leasehold property with twenty-one years to run

will be worth less in ten years time than now and will be worth nothing at the end of twenty-one years, when the ground landlord takes it over. Again, an asset may lose value because it becomes obsolete owing to the introduction of new models : thus, when the new type founts were introduced a few years ago, many firms decided to scrap their type founts which could have been used for printing for many more years but which would look old fashioned compared with the new type.

If then, an asset which has lost its value due to one of the three causes is shown in the balance sheet at its original value, the balance sheet is not correct : the assets are over-valued and consequently the capital is too high.

Depreciation is a method of showing assets in the balance sheet at their correct value. It consists of charging out of profits the amount by which the asset has to be reduced in value. There are three methods of depreciation.

1. The fixed instalment method, by which an equal amount is written off each year, is used for depreciating leases and leasehold premises. Thus, if a lease has ten years to run, it should be reduced in value by one tenth each year.

2. The percentage method, by which an agreed percentage is written off the balance each year, is excellent for depreciating plant and machinery because the amount to be charged will get less and less as the years go by, whereas the repairs bill will increase yearly.

3. The revaluation method is useful in a works for loose tools and patterns which get broken and lost.

Depreciation by Fixed Instalment Method. A lease which cost £1,050 has twenty-one years to run. Debit depreciation account each year with £50 and credit the lease account. The journal entry each year is :

		£	s.	d.	£	s.	d.
Dec. 31	Depreciation $\frac{1}{20}\%$	50	0	0			
	To Lease $\frac{1}{20}\%$				50	0	0
	For depreciation at agreed amount.						

The ledger account for the first two years is as follows :

Lease Account

		£	s.	d.			£	s.	d.
Jan. 1	To Cash . . . CB	1,050	0	0	Dec. 31	By Depreciation	50	0	0
					" 31	" Balance . . c/d	1,000	0	0
		1,050	0	0			1,050	0	0
Jan. 1	To Balance . . b/d	1,000	0	0	Dec. 31	By Depreciation	50	0	0
					" 31	" Balance . . c/d	950	0	0
		1,000	0	0			1,000	0	0
Jan. 1	To Balance . . b/d	950	0	0					

The depreciation account is closed by transferring it to the debit of profit and loss account.

Depreciation Account

Dec. 31	To Lease %	J	£	s.	d.	Dec. 31	By Profit and loss %	J	£	s.	d.
			50	0	0				50	0	0

On the assets side of the balance sheet write :

Lease	.	.	.	.	£	s.	d.	£	s.	d.
					1,050	0	0			
Less depreciation	.	.	.	.	50	0	0	1,000	0	0

EXERCISE 13A

Depreciation by Percentage Method. A machine costing £1,000 has a probable life of five years, when its scrap value will be about £50. Provide for depreciation by the percentage method. First, consider what percentage to deduct. Try 50 per cent. The remainders at the end of each year would be £500, £250, £125, £62, £31. So 50 per cent is too much. Now try 40 per cent. The remainders at the end of each year would be £600, £360, £216, £129, £77. So 40 per cent. is not sufficient depreciation. The answer lies between 40 per cent and 50 per cent. It will be sufficiently accurate if you take it as 45 per cent. If you work the problem by arithmetic you will find that is the correct answer.

The journal entry for the depreciation for the first two years will be :

1st Year	Depreciation %	.	.	.	£	s.	d.	£	s.	d.
	To Machinery %	.	.	.	450	0	0	450	0	0
	For depreciation at 45% of diminishing balance of £1,000.									
2nd Year	Depreciation %	.	.	.	247	10	0	247	10	0
	To Machinery %	.	.	.						
	For depreciation at 45% of diminishing balance of £550									

The ledger account will appear as follows :

Machinery Account

Jan. 1	To Cash	cb	£	s.	d.	Dec. 31	By Depreciation	J	£	s.	d.
			1,000	0	0	" 31	" Balance	c/d	450	0	0
									550	0	0
			1,000	0	0				1,000	0	0
Jan. 1	To Balance	b/d	550	0	0	Dec. 31	By Depreciation	J	247	10	0
						" 31	" Balance	c/d	302	10	0
			550	0	0				550	0	0
Jan. 1	To Balance	b/d	302	10	0						

Depreciation by Revaluation Method. A valuation is made of the asset at the close of the trading period. If from this is subtracted the old value we have the amount of the depreciation. Profit and loss account should be debited with the amount and the new value placed on the assets side of the balance sheet. If an asset has appreciated in value, that is the new value is greater than the old value, profit and loss should be credited with the difference.

The revaluation method is usually employed for loose tools and patterns. As the loss in value is considered a factory expense, it is customary to charge the depreciation to trading account. The easiest way is to place the old value on the debit side and the new value on the credit.

EXERCISE 13B

Loose tools are shown in the books at a value of £800. At the end of the year, the loose tools are valued at £710.

Trading Account									
To Loose Tools		£	s.	d.	By Loose Tools		£	s.	d.
		800	0	0			710	0	0
Balance Sheet									
<i>Liabilities</i>		£	s.	d.	<i>Assets</i>		£	s.	d.
					Loose Tools		710	0	0

It will be seen that this is just the same as putting £90 for depreciation of loose tools on the debit of trading account.

EXERCISE 13C

Patterns in a foundry were shown in the books at £420. At the end of the year they were valued at £540.

Trading Account									
To Patterns .		£	s.	d.	By Patterns .		£	s.	d.
		420	0	0			540	0	0
Balance Sheet									
<i>Liabilities</i>		£	s.	d.	<i>Assets</i>				
					Patterns .		540	0	0

EXERCISE 13D

Freehold works, valued at £2,800 in the books, are held on a lease with 14 years to run. Give the journal entry required to write off an appropriate amount of the lease and show the works account in the ledger.

EXERCISE 13E

Plant and machinery is valued in the books at £800. Show the journal

and ledger entries for two years' depreciation at 10 per cent of the diminishing balance.

EXERCISE 13F

Patterns which were valued at £530 twelve months ago are revalued at £500. Loose tools valued in the books at £910 are revalued at £950. Show the necessary entries.

EXERCISE 13G

Which methods of depreciation are suitable for motor lorries, freehold land and buildings, furniture and fittings, leasehold premises, tools? Give your reasons.

Bad Debts

To Write off Amount of Bad Debts. If a debtor fails to pay his debt the business loses that amount. It is really an expense of the business, an expense caused by the risk of allowing people goods on credit. As soon as it is known that there is no possible hope of collecting a debt, the debt should be written off to the profit and loss account of that trading period.

EXERCISE 13H

B. Leach, who owes us £100, is adjudicated bankrupt. He pays a composition of 4s. in the £. Write off the balance as a bad debt on May 17.

Leach pays us 4s. in the £, that is £20. The remaining £80 has to be written off.

May 17	Bad debts $\frac{a}{c}$ Dr.	GL 1	£	s.	d.	£	s.	d.
	To Leach's $\frac{a}{c}$	SL 1	80	0	0	80	0	0
	For writing off debt on Leach being adjudicated bankrupt							

B. Leach's Account

May 1	To Balance . . b/d	£	s.	d.	May 16	By Cash . . CB	£	s.	d.
		100	0	0	" 17	" Bad debts $\frac{a}{c}$ J	20	0	0
							80	0	0
		100	0	0			100	0	0

Bad Debts Account

May 17	To Leach's $\frac{a}{c}$. . J	£	s.	d.			£	s.	d.
		80	0	0					

Any other bad debts during the period will be posted to the same bad debts account. This is closed by posting the total for the period to the debit of profit and loss account.

Usually bad debts are written off during a trading period before the trial balance is taken out. If the bad debts are to be written off after the trial balance has been taken out, the profit and loss account will be debited and

the total of sundry debtors reduced by the amount of the bad debts.

When money is recovered from a debtor whose account has been previously written off as a bad debt, no entry can be made in the debtor's account. Cash should be debited and a bad debts recovered account should be credited; this account is closed by transferring the balance to the credit of profit and loss account. It would amount to the same thing if the bad debts account for the current period was credited. This would reduce the amount of bad debts to be transferred during that period to profit and loss account. The words "now clear" or "debt recovered" are usually written in the debtor's account as an indication that he may apply for credit once again.

If certain debts are doubtful it would be foolish to write them off as bad; yet some provision ought to be made, or the total of sundry debtors as shown on the assets side of the balance sheet will be higher than we expect to be paid. Supposing experience over a few years has shown that in our business we lose on the average 5 per cent of sundry debtors each year. Then if the total amount of debtors is £1,000 we want some method of showing it in the balance sheet as £950. We could of course depreciate each debtor's account just as we reduced the value of other assets by depreciation; but imagine the scene when Mr. Snodgrass arrives to settle his account with £100 in notes and looking over the shoulder of the ledger clerk sees his account reduced to £95. A much better method is to make a reserve for bad and doubtful debts equal to 5 per cent of sundry debtors. In the ledger no individual debtor's account will be reduced, but the total of debtors in the balance sheet will be reduced by the amount of the reserve.

To Create a Bad and Doubtful Debts Reserve.

EXERCISE 13 I

Sundry debtors amount to £1,000. Create a reserve of 5 per cent.

Dec. 31	Profit and loss $\frac{1}{2}\%$	Dr.	£	s.	d.	£	s.	d.
	To bad and doubtful debts reserve		50	0	0			
	For creation of reserve of 5% of sundry debtors £1,000					50	0	0

Debit profit and loss account with the amount of the reserve and on the assets side of the balance sheet write:

Debtors	1,000	0	0			
Less bad and doubtful debts reserve	50	0	0			
				950	0	0

To Increase a Bad Debt Reserve. Suppose in the following year the debtors were £1,200, we should want a reserve of £60. We already have a reserve of £50, and therefore need to increase it by £10.

Dec. 31	Profit and loss $\frac{1}{2}\%$	Dr.	£	s.	d.	£	s.	d.
	To Bad and doubtful debts reserve		10	0	0			
	For increase of reserve from £50 to £60 (being 5% of sundry debtors £1,200)					10	0	0

Debit profit and loss account with the amount of the increase and subtract the new reserve, £60, from the debtors in the balance sheet.

To Decrease the Bad Debts Reserve. Suppose in the next year the debtors totalled £1,100. The correct size of the reserve would be £55. We already have a reserve of £60 and there is no point in maintaining a reserve higher than estimated; so we must reduce it by £5.

		£	s.	d.	£	s.	d.
Dec. 31	Bad and doubtful debts reserve Dr.	5	0	0			
	To Profit and loss %				5	0	0
	For decrease of reserve from £60 to £55 (being 5% of sundry debtors £1,100)						

Credit profit and loss account with the decrease and subtract the new reserve, £55, from the debtors in the balance sheet.

Discount Reserves. Some firms create discount reserves on debtors; they know they will have to allow a cash discount to the debtors, and wish to show the debtors in the balance sheet at the sum they ought to receive.

To Create a Discounts Reserve on Debtors. The sum is calculated as a percentage of debtors less bad debts reserve.

		£	s.	d.	£	s.	d.
Dec. 31	Profit and loss %	47	10	0			
	To reserve for discount on debtors				47	10	0
	Being 5% of £950 (debtors £1,000 less bad debts reserve £50)						

In the balance sheet it will appear as:

	£	s.	d.	£	s.	d.
Debtors	1,000	0	0			
Less bad debts reserve	50	0	0			
	950	0	0			
Less reserve for discount	47	10	0	902	10	0

To Create a Reserve for Discounts on Creditors. Credit profit and loss and debit reserve for discounts on creditors. In the balance sheet write: Creditors less discount on creditors.

Various Reserves. General reserve, taxation reserve, bonus reserve, reserve for legal expenses, reserve for travellers' commission, reserve for directors' fees.

To create any of these reserves, debit profit and loss account with the amount and show the reserve on the liabilities side of the balance sheet.

To increase reserve, debit profit and loss account with the amount of increase and show new reserve as liability.

To close a reserve no longer required credit profit and loss account with the amount of the reserve, which will no longer be shown in the balance sheet.

EXERCISE 13J

Mr. Price, who owes us £250, pays £60 on June 24. Show the journal and ledger entries required to write off the balance as irrecoverable.

EXERCISE 13K

Debtors are valued in the books at £700. Create a bad and doubtful debts reserve of 5 per cent. In the following year the debtors amounted to £950 and in the third year to £800. Alter the reserve accordingly.

Expenses Paid in Advance and Unpaid

The profit and loss account for a period must show all the expenses for that period, whether they have been paid or not. It will be readily seen that a man will make a large net profit if he omits to pay all his expenses until after the period is closed. But what about the next period? Similarly, if part of the expenditure has not been paid, allowance must be made for the unpaid amount, so that the profit and loss account can show the total amount for the year. Again, if certain expenditure includes payment for next year, the extra amount must not be charged to profit and loss account. If the rent is £100 per annum, the £100 must be charged to profit and loss account each year even though the actual amounts paid were £80, £100 and £120 in three successive years.

Expenses Paid in Advance.

Rent Account											
		£	s.	d.			£	s.	d.		
Dec. 25	To Cash	120	0	0	Dec. 31	By Rent in advance	c/d	20	0	0	
					" 31	" P. and L. $\frac{a}{c}$		100	0	0	
		120	0	0				120	0	0	
Jan. 1	To Rent paid in advance	b/d	20	0	0						

Debit profit and loss account with the amount shown in the trial balance less the amount paid in advance. Show the amount of rent unexpired on the assets side of the balance sheet.

Expenses Unpaid. Rent, debenture interest, commission due to travellers, interest on loan, interest on bank overdraft.

Rent Account											
		£	s.	d.			£	s.	d.		
Dec. 26	To Cash	75	0	0	Dec. 31	By P. and L. $\frac{a}{c}$	100	0	0		
" 31	" Rent accrued due	25	0	0							
		100	0	0	Jan. 1	By Rent accrued due $\frac{a}{c}$	100	0	0		
							25	0	0		

Debit profit and loss account with amount in trial balance, plus amount accrued due. Enter expense accrued on liabilities side of balance sheet.

Where the value of an asset such as packing materials or postages and

stamps unused is given, this should be subtracted from packing or postages in profit and loss account or trading account and shown as an asset in the balance sheet.

Income Due but not Received ; as rent due from subtenant, or bank interest due but not received.

Rent Account

		£	s.	d.			£	s.	d.
Dec. 31	To P. and L. %	130	0	0	Dec. 26	By Cash	110	0	0
					" 31	" Rent			
						accrued due	c/d	20	0
		130	0	0				130	0
Jan. 1	To Rent								
	accrued	b/d	20	0					

Credit profit and loss account with amount received plus amount due. Amount unpaid appears as an asset in the balance sheet.

Receipts in Advance. Credit profit and loss account with amount received less amount paid in advance. Show latter on the liabilities side of the balance sheet.

Expenses and Assets to be written off over period of years. Advertising, legal charges, preliminary expenses, goodwill and trade marks, debenture discount, cost of lease.

Example : Advertising costs £10,000. Decided to write it off over period of 5 years. Calculate amount to be written off this year. Debit profit and loss account with £2,000. On assets side of balance sheet show remaining £8,000.

Income over a period of years, such as Apprentices' Premiums. Where a sum of money has been received for tuition to be given during a period of years, credit profit and loss account with a proportion for the year and show the remainder as a liability in the balance sheet.

Example : Apprentice premium of £500 for five years. Credit profit and loss account with £100 and show £400 on the liabilities side of the balance sheet.

Other Common Adjustments

Drawings. In cash, debit drawings account, credit cash book ; of stock, debit drawings account and credit purchases account ; of workman's time, debit drawings account and credit wages account.

Example : Partner charged £40 for private use of firm's car. Reduce amount of motor expenses on debit side of the profit and loss account by £40, and add £40 to drawings to be subtracted from capital.

Purchase of Asset included under Purchases. Subtract the amount from the purchases in trading account and show asset in balance sheet separately or added to other assets.

Item of Expense included under Purchases.

Example : Fire equipment shown under purchases. Subtract from purchases and debit profit and loss account with expense. Similarly, advertising items sometimes are shown under the heading of purchases.

EXERCISE 13L

The following trial balance was extracted from the books of B. Burgess.

	£	s.	d.	£	s.	d.
Capital %				2,300	0	0
Plant and Machinery	1,000	0	0			
Fixtures and fittings	500	0	0			
Carriage inwards	20	0	0			
Carriage outwards	15	0	0			
Returns	30	0	0	40	0	0
Wages	140	0	0			
Rent	60	0	0			
Salaries	60	0	0			
Discounts allowed	10	0	0			
Discounts received				20	0	0
Purchases and sales	1,600	0	0	1,900	0	0
Debtors	800	0	0			
Creditors				740	0	0
Drawings	300	0	0			
Bad debts written off	40	0	0			
Cash in hand	10	0	0			
Cash at bank	215	0	0			
Stock	200	0	0			
	5,000	0	0	5,000	0	0

You are required to prepare trading and profit and loss accounts for the year ended December 31, 194. . . and balance sheet as on that date, after taking into consideration the following adjustments :

1. Depreciate plant and machinery 10 per cent and furniture and fittings 5 per cent.
2. A bad and doubtful debts reserve is to be created at 5 per cent of sundry debtors.
3. The rent has been paid for three quarters of the year.
4. Wages owing £10.
5. Credit interest on capital at 5 per cent per annum.
6. Stock in hand December 31, £600.

The answers to the exercises are on page 323.

LESSON FOURTEEN

BILLS OF EXCHANGE

A BILL of exchange can be looked at from two angles. From the point of view of the person who accepts the bill it is a bill payable; from the point of view of the person who draws it and receives the acceptance it is a bill receivable. Bills are dealt with in the following manner.

Bills Payable

The person who accepts the bill guarantees to pay it on a definite date. When he gives the creditor his acceptance he can write off the creditor's account, because he no longer owes the debt. He now owes a new debt, the amount of the bill, which he must pay on maturity to the creditor or whoever presents the bill for payment.

When a Bill is Accepted, that is, given in settlement of a debt. Debit personal account and credit bills payable account.

T. Roberts' Account BL 4

Jan. 2	To Bills payable	J	£	s.	d.	Jan. 1	By Balance	b/d	£	s.	d.
			100	0	0				100	0	0

Bills Payable Account GL 1

		£	s.	d.	Jan. 2	By T. Roberts	J	£	s.	d.
								100	0	0

Unless specially ruled bills books are used, an entry must be made in the journal :

Jan. 2	T. Roberts' %	.	.	.	Dr.	£	s.	d.	£	s.	d.
	To Bills payable %	.	.	.		100	0	0	100	0	0
	For bill at 3 months' date										

When a Bill Payable is Met at Maturity. Debit bills payable account and credit cash. No journal entry is necessary. Three days are allowed for payment after the due date on the bill ; these are known as days of grace.

Bills Payable Account GL 1

April 5	To Cash	CS	£	s.	d.	Jan. 2	By T. Roberts	J	£	s.	d.
			100	0	0				100	0	0

CASH BOOK

		£	s.	d.	April 5	By Bills payable	GL 1	£	s.	d.
						(T. Roberts)		100	0	0

Bills Receivable

A person to whom an acceptance is given can at once cancel the amount in his debtor's account, for he now has a security of which he can enforce payment irrespective of the original debt. He will keep a bills receivable account which will show him the total of the amounts he will ultimately collect.

When a Bill is Received in Settlement of a Debt. Debit bills receivable account and credit the customer's personal account.

BOOK-KEEPING

P. Walters' Account SL 1

Jan. 1	To Balance	b/d	£	s.	d.	Jan. 2	By B/R	J	£	s.	d.
			60	0	0				60	0	0

Bills Receivable Account GL 2

Jan. 2	To Walters	J	£	s.	d.				£	s.	d.
			60	0	0						

In the journal the entry is :

Jan. 2	Bills, receivable $\frac{9}{100}$	Dr.	£	s.	d.		£	s.	d.
	To P. Walters' $\frac{9}{100}$		60	0	0		60	0	0
	For bill at 21 days date								

The Holder of a Bill Receivable can do three things. First, he can wait until the bill is mature and present it for payment to the person who accepted it. Usually he will get his bank to do this, and when he pays the bill into the bank for collection he assumes the bill will be honoured, and debits the bank column of his cash book with the amount. If later the bank informs him that the bill is not met, he has to credit his cash book.

When the Bill is Paid into the Bank for Collection. Immediately debit cash book and credit bills receivable account.

No journal entry is necessary.

Bills Receivable Account GL 2

Jan. 2	To P. Walters	SL 1	£	s.	d.	Jan. 26	By Cash	CB	£	s.	d.
			60	0	0				60	0	0

CASH BOOK

Jan. 26	To Bills Receivable	GL 2	£	s.	d.				£	s.	d.
			60	0	0						

When a Bill is Dishonoured. The treatment is as in the previous step, that is, the bill must be paid into the bank for collection. Then on dishonour :

1. Credit the bank column in the cash book with the amount of the bill.
2. Credit the bank column in the cash book with the amount of bank charges.
3. Debit the personal account with the amount of the bill and bank charges.

Note that no entry can be made in bills receivable account and no journal entry is necessary.

Bills Receivable Account GL 2

Jan. 2	To P. Walters	SL 1	£	s.	d.	Jan. 26	By Cash	CB	£	s.	d.
			60	0	0				60	0	0

DISHONoured BILLS

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P. Walters' Account SL 1

Jan. 1	To Balance .	J	£	s.	d.	Jan. 2	By B/R .	GL 1	£	s.	d.
" 27	" Cash .	CB	60	0	0				60	0	0
	(bill dishonoured)										
" 27	" Bank charges	CB	0	7	6						

CASH BOOK

Jan. 26	To B/R (P. Walters)	GL 2	£	s.	d.	Jan. 27	By P. Walters .	SL 1	£	s.	d.
			60	0	0		(bill dishonoured)		60	0	0
						" 27	" P. Walters				
							(bank charges)	SL 1	0	7	6

When the Holder of a Bill receives notice of dishonour before he has paid the bill into the bank for collection. On dishonour :

1. Credit bills receivable account with the amount of the bill.
2. Credit bank column in cash book with amount of charges.
3. Debit personal account with amount of bill and charges.

P. Walters' Account SL 1

Jan. 1	To Balance .	J	£	s.	d.	Jan. 2	By B/R .	GL 2	£	s.	d.
" 16	" B/R (dishonoured bill)	GL 2	60	0	0				60	0	0
" 16	" Bankcharges	CB	0	7	6						

Bills Receivable Account GL 2

Jan. 2	To P. Walters .	SL 1	£	s.	d.	Jan. 16	By P. Walters		£	s.	d.
			60	0	0		(bill dishonoured)	SL 1	60	0	0

CASH BOOK

			£	s.	d.	Jan. 16	By P. Walters		£	s.	d.
							(Charges)	SL 1	0	7	6

The second thing that can be done with a bill is to discount it at the bank, instead of waiting for the bill to become mature. The bank will of course charge a commission.

Discounting Bills of Exchange. Credit bills receivable account with the full amount of the bill. Debit bank column in cash book with the full amount of the bill. Credit bank column in cash book with amount of discount charged, and debit a discount on bills account with this amount. The discount on bills account is later closed by transfer to the debit of profit and loss account.

Bills Receivable Account GL 2

Jan. 2	To P. Walters	SL	£	s.	d.	Jan. 3	By Bank	CB	£	s.	d.
			60	0	0				60	0	0

CASH BOOK

Jan. 3	To B/R discounted (P. Walters)	GL 2	£	s.	d.	Jan. 3	By Discount on bills $\frac{1}{2}\%$ (P. Walters)	GL 6	£	s.	d.
			60	0	0				1	0	0

Discount on Bills Account GL 6

Jan. 3	To Bank (Walters' bill)	CB	£	s.	d.				£	s.	d.
			1	0	0						

When a Bill previously Discounted is Dishonoured. Credit bank column in cash book with the amount of the bill and any bank charges. Debit personal account with the amount of the bill and bank charges.

Note that the expense of discounting a bill cannot be posted to a personal account. This expense is transferred to the debit of profit and loss account and represents the charge for borrowing money from the bank.

The entries will be identical with those shown in the dishonour of a bill, together with a discount on bills account.

Discount on Bills Account GL 6

Jan. 5	To Bank (Walters' bill)	CB	£	s.	d.	Jan. 31	By Transfer to P. and L. $\frac{1}{2}\%$	J	£	s.	d.
			1	0	0				1	0	0

The third thing that the holder of a bill can do is to transfer it to someone else in settlement of a debt.

To Transfer a Bill Receivable. Debit the account of the person to whom the bill is transferred. Credit bills receivable account.

Example : T. Grigg owes us £70 and gives us a bill receivable. We transfer this to P. Jones, to whom we also give a bill payable for £50, thus settling his debt of £120.

P. Jones' Account BL 6

Jan. 3	To B/P	J	£	s.	d.	Jan. 1	By Balance	b/d	£	s.	d.
" 4	" B/R (Grigg)	J	50	0	0				120	0	0
			70	0	0						

T. Grigg's Account SL 8

Jan. 1	To Balance	b/d	£	s.	d.	Jan. 2	By B/R	J	£	s.	d.
			70	0	0				70	0	0

Bills Receivable Account GL 6

Jan. 2	To T. Grigg	J	£	s.	d.	Jan. 4	By P. Jones (transfer of Grigg's bill)	J	£	s.	d.
			70	0	0				70	0	0

Bills Payable Account GL 7

			s.	d.	Jan. 4	By P. Jones	BL 6	£	s.	d.
								50	0	0

Note in P. Jones' account on the debit side appear both bills payable and bills receivable.

In the journal, apart from the usual entries for the bill receivable and the bill payable, appears :

Jan. 4	P. Jones' % To Bills receivable. For transfer of Grigg's bill to Jones	Dr.	£	s.	d.	£	s.	d.
			70	0	0	70	0	0

If a Transferred Bill is Dishonoured. Debit the original acceptor of the bill. Credit the account of the person to whom the bill was transferred.

P. Jones' Account BL 6

Jan. 3	To B/P	GL 7	£	s.	d.	Jan. 1	By Balance	J	£	s.	d.
" 4	" B/R	GL 6	70	0	0	" 21	T. Grigg (bill dishonoured)	J	120	0	0
								J	70	0	0

T. Grigg's Account SL 8

Jan. 1	To Balance	J	£	s.	d.	Jan. 2	By B/R	GL 6	£	s.	d.
" 21	" P. Jones (bill dishonoured)	J	70	0	0				70	0	0

The journal entry is :

Jan. 21	T. Grigg To P. Jones For dishonour of Grigg's bill transferred P. Jones	Dr.	SL 8 BL 6	£	s.	d.	£	s.	d.
				70	0	0	70	0	0

EXERCISE 14A

Show the following in the books of R. Peart :

- June 1 Bought goods on credit from S. Snail / 250.
 " 2 Accepted a bill for two months for £250 drawn by S. Snail.
 Aug. 5 Bankers paid the bill on presentation.

EXERCISE 14B

Show the following :

- Mar. 1 T. Jacks owed us £200.
 „ 2 Jacks accepted our draft at 3 m/d.
 June 5 We paid the bill into the bank for collection.
 „ 7 Bank informs us that Jacks' bill was dishonoured.
 „ 10 Jacks accepted a new bill of 2 m/d for £202 including interest of £2.

EXERCISE 14C

Show the following :

- July 1 R. Small owed us £300 and gave us his acceptance for three months
 'for the amount.
 „ 2 We discounted the bill at the bank and were charged £4.
 Oct. 4 The bill was dishonoured.

EXERCISE 14D

From the following trial balance of E. Meredith and the adjustments given below, you are required to prepare trading account and profit and loss account for the year ended December 31, and a balance sheet as on that date.

Trial Balance

	£	s.	d.	£	s.	d.
Plant and machinery	800	0	0			
Office furniture	400	0	0			
Debtors	12,800	0	0			
Creditors				1,500	0	0
Rent and rates of office	150	0	0			
Rent and rates of warehouse	250	0	0			
Warehouse wages	550	0	0			
Office salaries	800	0	0			
Warehouse room sublet				50	0	0
Insurance of warehouse	70	0	0			
Bad debts	80	0	0			
Bad debts reserve				470	0	0
Purchases and sales	26,200	0	0	31,800	0	0
Returns	120	0	0	80	0	0
Discounts	80	0	0	60	0	0
Bills receivable	1,400	0	0			
Bills payable				1,200	0	0
General expenses	1,600	0	0			
Cash in hand	10	0	0			
Bank overdraft				250	0	0
Capital account				10,890	0	0
Drawings	1,000	0	0			
	46,310	0	0	46,310	0	0

1. Charge all expenses of warehouse to trading account, including three quarters of the general expenses.

2. Insurance owing £15.
3. Rates of office paid in advance £10.
4. Depreciation is to be provided on machinery at 10 per cent and on office furniture at 5 per cent.
5. Increase the bad debts reserve to 5 per cent of sundry debtors.
6. There is a contingent liability for bills under discount for £200.
7. Stock at close £1,010.

Note that a contingent liability is a liability that might occur. In No. 6 the liability will occur if the person whose bill was discounted fails to honour it at maturity. In that contingency, Meredith will owe the bank £200. All that is necessary is to put a footnote, at the bottom of the liabilities side of the balance sheet, stating that there is a contingent liability for bills under discount of £200.

EXERCISE 14E

The following balances appear in the books of H. Baron on July 1, 194... Cash in hand £10, cash at bank £180, plant and machinery £400; debtors: J. Jenkins £80, S. Augustus £160, H. Clark £50, bills receivable (Leeson) £120; creditor: H. Jefferson £180, bills payable (Jolly) £150. Make an opening entry and post to ledger. Enter the following in the books of original entry, and post to the ledger and take out a trial balance.

- Jan. 1 Augustus gives us his acceptance at seven days' date for £160.
 " 1 Sold goods to H. Clark, £60 on credit.
 " 3 Clark accepted our draft for £110.
 " 5 Discounted Clark's acceptance at the bankers, the bank charging £1.
 " 6 Transferred Leeson's bill to H. Jefferson, and gave him a bill payable for the balance.
 " 8 Paid Augustus's bill into the bank for collection.
 " 10 Bank informed H. Baron that Augustus's bill was dishonoured on presentation.
 " 12 Purchased goods from Jefferson, £140.
 " 16 Gave Jefferson acceptance for £140.
 " 18 Sold goods on credit to Jenkins, £65.
 " 20 Jenkins accepted our draft for £145.
 " 30 Wrote off Augustus's debt as bad.
 " 31 Instructed our bankers to meet Jolly's bill.

The answers to the exercises are on pages 323-324.

LESSON FIFTEEN

PARTNERSHIP ACCOUNTS

IT is customary for each partner in a business to have a separate capital account and a separate current account. The capital account contains the partner's fixed capital, and the partnership agreement usually provides that he does not withdraw any portion of this. The current account is really a second capital account. On the credit is entered his share of the profits and on the debit his drawings. Any balance in this account can be withdrawn by the partner concerned.

Where the partners withdraw money frequently, a drawings account is used and the balance of this is posted to the debit of current account. When there are few amounts withdrawn during the period, a drawings account is dispensed with.

Salaries and Interest on Capital. If one partner provides the capital and another does the work, it might be fair to divide the profits equally, but if both partners provide equal amounts of capital and one does the work, how should profits be divided? The best way is to pay the working partner a salary out of the profits and then divide the balance of the profits equally. The salary may be paid in cash or the amount added to current account.

Similarly if both partners have different amounts of capital, the fairest method is to allow them out of the profits sums such as they would obtain if their capitals were invested elsewhere. Thus a sum, equal to 5 per cent of their capitals, could be deducted from profits and divided between the partners in a different proportion from the remainder of the profits.

EXERCISE 15B

Sims and Grounds are in partnership with capitals of £3,000 and £1,000, and share profits and losses equally. Grounds is entitled to a salary of £300. Interest on capital at 5 per cent is to be paid. Sims has a credit balance in his current account of £150, and Grounds a debit balance of £50. Profit for the year is £6,000. Sims draws £3,000. Grounds £3,250 during the year.

Profit and Loss Appropriation Account

	£	s	d		£	s	d
To Interest on capital %	200	0	0	By Balance being net profit	6,000	0	0
„ Partner's salary %	300	0	0				
„ Sims' current %	2,750	0	0				
„ Grounds' current %	2,750	0	0				
	6,000	0	0		6,000	0	0

Interest on Capital Account

	£	s	d		£	s	d
To Sims' current %	150	0	0	By Profit and loss %	200	0	0
„ Grounds' current %	50	0	0				
	200	0	0		200	0	0

Partner's Salary Account

	£	s	d		£	s	d
To Grounds' current %	300	0	0	By Profit and loss %	300	0	0

Sims' Capital Account

	£	s.	d.			£	s.	d.
				By Balance	b/d	3,000	0	0

Grounds' Capital Account

	£	s.	d.			£	s.	d.
				By Balance	b/d	1,000	0	0

Sims' Current Account

	£	s.	d.			£	s.	d.
To Cash (drawings)	3,000	0	0	By Balance	b/d	150	0	0
„ Balance	c/d	50	0	„ Interest on capital %		150	0	0
				„ Profit and loss % equal share of profits		2,750	0	0
	3,050	0	0			3,050	0	0
				By Balance	b/d	50	0	0

Grounds' Current Account

	£	s.	d.			£	s.	d.
To Balance	b/d	50	0	By Interest on capital		50	0	0
„ Cash drawings		3,250	0	„ Salary		300	0	0
				„ Profit and loss % share of profit		2,750	0	0
				„ Balance	c/d	200	0	0
	3,300	0	0			3,300	0	0
To Balance	b/d	200	0					

EXERCISE 15C

Rogers and Bayly are in partnership with capitals of £1,000 and £5,000 respectively, sharing profits and losses equally. Rogers has a debit balance in current account of £100, Bayly a credit balance of £50. Bayly is entitled to a salary of £400. Interest on capital is to be charged at 5 per cent per annum. The profits available for distribution are £1,000. During the period, Rogers withdrew £325 and Bayly £640. Record the above entries.

Interest on Drawings. Some firms charge their partners interest on drawings, based on the idea that the partners are not entitled to withdraw any profits until the end of the year, when the profits are shared out. If, therefore, a partner withdrew £100 on March 31 and £300 on October 1, he should pay nine months' interest at 5 per cent on the £100 and three months' interest on the £300 to the firm. The current account will be debited and

the profit and loss account credited. This will increase the profit available for distribution.

Profit and Loss Appropriation Account

	£	s.	d.		£	s.	d.
				Dec. 31 By Balance .	1,000	0	0
				" 31 " Interest on drawings .	7	10	0

A's Current Account

	£	s.	d.		£	s.	d.
Mar. 31 To Cash drawings	100	0	0				
Oct. 1 " Cash drawings	300	0	0				
Dec. 31 " Interest on drawings	7	10	0				

Interest on Drawings Account

	£	s.	d.		£	s.	d.
Dec. 31 To Profit and loss appropriation $\frac{1}{2}\%$	7	10	0	Dec. 31 By A's current $\frac{1}{2}\%$	7	10	0

EXERCISE 15D

Rivett and Marston are in partnership, sharing profits and losses equally. Rivett's capital is £5,000, Marston's capital is £4,000. The partners are entitled to interest on capital at 5 per cent per annum and are to be charged interest on drawings at 5 per cent per annum. Marston is to receive a salary of £400. Rivett withdrew £400 on March 31, June 30, September 30, and December 31. Marston withdrew £600 on May 1 and September 1. Prior to these adjustments the net profit was £4,000. Show the accounts required to record the above and show the liabilities side of the balance sheet.

Introduction of Partner

If two partners start in business with £500 each as capital and work up the business until it is a most profitable concern, they would not welcome as a partner a man who brought in £500 capital and expected to share equally. He did not share the risk with them in the old days, and so they will expect him to pay for the privilege of being a partner in one of the following three ways :

1. The new partner can pay a premium privately to the old partners. No entry of the premium appears in the books. This is unwise and might lead to trouble in the event of his death.
2. The new partner pays a premium in addition to the amount of his capital. The premium is posted to the current accounts of the existing partners, who can thereupon withdraw it.

1. The new partner pays a premium in addition to the amount of his capital, but insists that the premium remains in the business. In this case the premium is posted to the capital accounts of the existing partners.

EXERCISE 15E

Jones and Brown, with capitals of £1,000 each, agree to admit Robinson. He is to bring in £1,000 as capital and £1,000 as premium which is to be shared between the partners and to remain in the business.

CASH BOOK

		£	s.	d.			£	s.	d.
To Robinson's Capital %	GL3	1,000	0	0					
„ Robinson's Premium %	GL4	1,000	0	0					

Jones' Capital Account GL 1

		£	s.	d.			£	s.	d.
					By Balance	b/d	1,000	0	0
					„ Robinson's premium %	J	500	0	0

Brown's Capital Account GL 2

		£	s.	d.			£	s.	d.
					By Balance	b/d	1,000	0	0
					„ Robinson's premium %	J	500	0	0

Robinson's Capital Account GL 3

		£	s.	d.			£	s.	d.
					By Cash	CB	1,000	0	0

Robinson's Premium Account GL 4

		£	s.	d.			£	s.	d.
To Jones' capital %	J	500	0	0	By Cash	CB	1,000	0	0
„ Brown's capital %	J	500	0	0					

If the new partner is unable or unwilling to pay a premium for the privilege of joining the business, the existing partners will probably increase their capitals. For every increase of the liabilities, there must be a corresponding increase of assets. The partners cannot increase cash or stock or plant and so will create an asset—a goodwill account.

EXERCISE 15F

Arthur and Beach are partners with £500 capital each. Their sole asset is plant £1,000. They agree to admit Cole with capital £750. He is unwilling to pay a premium, so they raise a goodwill account of £500, and credit it to their capital accounts.

Goodwill $\frac{a}{c}$ Dr.	GL 3	£	s.	d.	£	s.	d.
To Arthur's capital $\frac{a}{c}$	GL 1	500	0	0	250	0	0
„ Beach's capital $\frac{a}{c}$	GL 2				250	0	0
For creation of goodwill $\frac{a}{c}$.							

Arthur's Capital Account

	£	s.	d.		£	s.	d.
				By Balance	b/d	500	0 0
				„ Goodwill $\frac{a}{c}$	J	250	0 0

Goodwill Account

To Capital	J	£	s.	d.			
Accounts		500	0 0				

Balance Sheet as at

Capital :	£	s.	d.		£	s.	d.
Arthur	750	0 0		Cash	750	0 0	
Beach	750	0 0		Plant	1,000	0 0	
Cole	750	0 0		Goodwill $\frac{a}{c}$	500	0 0	
	2,250	0 0			2,250	0 0	

EXERCISE 15G

A and B are equal partners, each having £1,000 capital. They admit C who pays in £1,500 as capital and £1,000 as a premium. The partners withdraw their share of the premium a week later. Supply dates. Show the partners' capital and current accounts.

EXERCISE 15H

X and Y, partners, share profits and losses two-thirds and one-third. Their capitals are £2,000 and £1,000 respectively; Z brings in capital £1,000 and premium £900, which is to remain in the business and be divided between X and Y in proportion to their capitals. Show the entries.

If Z is to have one-quarter of the future profits, what share will X and Y have?

EXERCISE 15I

Lee and Gee are partners sharing equally and having capitals of £1,000 each. Mee, who is unwilling to pay a premium, brings in cash £1,500 as his capital. The partners raise a goodwill account of £1,000. Show the entries.

EXERCISE 15J

S. Rebbeck and T. Williams are in partnership, sharing profits and losses two-thirds and one-third respectively. From the trial balance and the adjustments given below, you are required to prepare trading and profit and loss accounts for the period ended December 31, 194... and balance sheet as on that date.

Trial Balance

	£	s.	d.	£	s.	d.
Purchases	5,800	0	0			
Sales				9,900	0	0
Returns	30	0	0	25	0	0
Discounts allowed and received	180	0	0	45	0	0
Carriage inwards	75	0	0			
Stock	1,105	0	0			
Plant and machinery	1,000	0	0			
Cash in bank	135	0	0			
Fixtures and fittings	525	0	0			
Motor vans, January 1, 194...	1,200	0	0			
Motor vans purchased July 1, 194...	500	0	0			
Repairs to vans	90	0	0			
Petrol and oil	180	0	0			
Leasehold premises	2,400	0	0			
Rent and rates	200	0	0			
Licences and insurances	40	0	0			
Debtors and creditors	1,120	0	0	1,325	0	0
Bad debts written off	60	0	0			
Bad debts reserve				70	0	0
Office salaries	400	0	0			
Wages	450	0	0			
Wages of van drivers	580	0	0			
S. Rebbeck capital account				4,000	0	0
T. Williams capital account				2,000	0	0
S. Rebbeck drawings account	800	0	0			
T. Williams drawings account	500	0	0			
S. Rebbeck current account				10	0	0
T. Williams current account	5	0	0			
	17,375	0	0	17,375	0	0

All expenses connected with the motor vans are to be grouped together in profit and loss account under the heading delivery charges.

The partnership agreement provided that interest was to be allowed on capital accounts at 5 per cent per annum, but not on current account; that interest was to be charged on drawings at 5 per cent per annum; that Williams was to have a salary of £450; that Rebbeck was to be entitled to withdraw £800 on June 30, and Williams to withdraw £500 on June 30.

Williams withdrew goods valued at £100 for his personal use, but no entry has been made in the books.

The bad debts reserve is to be maintained at 5 per cent of sundry debtors.

5. Depreciation is to be charged on motor vans at 20 per cent and on leasehold premises at 10 per cent.
6. The closing stock is valued at £1,400.

EXERCISE 15K

S. Sutherland and T. Bacon are in partnership, sharing profits and losses equally. Prepare opening entry from the following balances, and enter in ledger. Pay into bank on same day all cheques received.

Cash in hand £15, cash in bank £85, stock £360; Debtors: S. Pritchard £40, R. Pascoe £80; Creditor: T. Gage £20; Sutherland's capital account (fixed) £400, Bacon's capital account (fixed) £100, bills payable £60.

The following are the transactions for the month:

- May 1 Sold to T. Martin, goods £50.
 " 2 Pritchard returned goods £10.
 " 4 Paid Gage's account and was allowed 10s. discount.
 " 6 Pritchard settled his account and we allowed him discount 15s.
 " 8 Sold to Pascoe, goods £120.
 " 12 Purchased goods from Gage £90.
 " 16 Returned goods to Gage £5.
 " 18 Paid wages in cash £12.
 " 20 Paid carriage on sales £10.
 " 22 Pascoe accepted our draft at 3 m/d for £200.
 " 28 Met bill payable at maturity £35.
 " 28 Martin paid his account and we allowed him 2½ per cent cash discount.
 " 30 Sutherland withdrew £15 and Bacon £12.

Enter the above in the books of original entry, post to ledger and take out trial balance. The stock at close was valued at £370. Credit current accounts with one month's interest at 5 per cent per annum. Prepare trading account, profit and loss account and balance sheet.

The answers to the exercises are on pages 324-325.

LESSON SIXTEEN

COMPANY ACCOUNTS

IT is customary when floating a company, for the directors to permit the public to pay up the share capital in instalments, as this induces people to subscribe for more shares. Sometimes part is paid on application when the person applies for shares, part on allotment, when the company says how many shares the applicant may have, part on first call three months later, part on final call. Sometimes there are two instalments, part on application and allotment and the balance on call account.

If all the money is to be paid at once, debit a sundry shareholders' account with the amount and credit the share capital account. When the money is received, debit cash and credit the sundry shareholders' account, whose function is merely to show how much is paid and how much owing.

If the money is to be paid in two amounts, you will require an application

and allotment account and a call account to show the amounts paid or owing.

EXERCISE 16A

The ABC Co., Ltd., on March 1, issues 1,000 ordinary shares of £1 each, payable 5s. on application and allotment and the balance on call three months later. All the money is received, except the call money of T. Jones who subscribed for 20 shares.

			£	s.	d.	£	s.	d.
March 1	Application and allotment $\frac{a}{c}$. Dr.	GL 1	250	0	0			
	To Ordinary share capital $\frac{a}{c}$.	GL 3				250	0	0
	For 5s. per share on 1,000 ordinary shares of £1 each.							
June 1	First and final call $\frac{a}{c}$. . . Dr.	GL 2	750	0	0			
	To Ordinary share capital $\frac{a}{c}$.	GL 3				750	0	0
	For 15s. per share on 1,000 ordinary shares of £1 each.							

Application and Allotment Account GL 1

		£	s.	d.			£	s.	d.
March 1	To Ordinary share capital . J	250	0	0	March 2	By Cash . CB	200	0	0
					" 3	" Cash . CB	50	0	0
		250	0	0			250	0	0

Call Account GL 2

		£	s.	d.			£	s.	d.
June 1	To Ordinary share capital . J	750	0	0	June 2	By Cash . CB	735	0	0

CASH BOOK

		£	s.	d.			£	s.	d.
March 1	To Application and allotment . GL 1	200	0	0					
" 2	" Application and allotment . GL 1	50	0	0					
June 2	" Call account . GL 2	735	0	0					

Ordinary Share Capital Account GL 3

			£	s.	d.
March 1	By Application and allotment $\frac{a}{c}$. J	250	0	0	
June 1	" Call $\frac{a}{c}$. J	750	0	0	

Note that in the application and allotment account the cash has been shown as received in two amounts, as a reminder that in actual practice it will be received on several days.

Jones fails to pay the call money on 20 shares of 15s. each share, a total of £15. This is known as calls in arrears. At the end of the year the call account will be balanced and the balance either brought down to the debit of call account or to the debit of calls in arrears account. This is shown as a deduction from ordinary share capital in the balance sheet.

	£	s.	d.	£	s.	d.
Ordinary share capital % :						
1,000 shares of £1 each	1,000	0	0			
Less calls in arrears	15	0	0	985	0	0

EXERCISE 16B

The Johnstone Manufacturing Co. Ltd., issues on January 1, 100 ordinary shares of £10 each, payable £2 on application and allotment, £3 on first call on March 1, £5 on second call on June 1. All the shares were subscribed for. Jackson, who subscribed for 5 shares, failed to pay the money on second call. Show the journal entries and post to the ledger.

EXERCISE 16C

The Bourne Co. Ltd., issues on March 1, 1,000 ordinary shares of £1, payable 10s. on application and allotment and 10s. on call three months later. 800 shares are subscribed for. Show the journal and ledger entries.

Note that although 1,000 shares are offered, only 800 are subscribed for. Therefore the journal and ledger entries must be on the basis of the 800 subscribed for.

EXERCISE 16D

Butterworth and Company issue 1,000 ordinary shares of £1 each at a premium of 5s. per share. 10s. is payable on application and 15s. (including premium) on call.

		£	s.	d.	£	s.	d.
June 1	Application %	GL 1	500	0	0		
	To ordinary share capital %	GL 3			500	0	0
	For 10s. per share on 1,000 ordinary shares of £1 each						
Aug. 1	Call %	GL 2	750	0	0		
	To premium on shares %	GL 4			250	0	0
	To ordinary share capital %	GL 3			500	0	0
	For 10s. per share on 1,000 ordinary shares and 5s. per share premium						

Post the above journal entry to the ledger accounts. The premium account will show £250 on the credit side. This £250 must not be used as a profit, but should be shown on the liabilities side of the balance sheet. If in some trading period the company has to bear a big loss, due say to machinery becoming obsolete, then this reserve could be used.

EXERCISE 16E

Summers, Ltd., issues 1,000 ordinary shares of £1 each at a discount of 2s. 6d. per share, payable 7s. 6d. (including discount) on application and 10s. on call.

			£	s.	d.	£	s.	d.
Sept. 1	Application % Dr.	GL 1	375	0	0			
	Discount on shares %	GL 2	125	0	0			
	To ordinary share capital %	GL 3				500	0	0
	Being 7s. 6d. per share on application and 2s. 6d. discount allowed on the issue of 1,000 shares of £1 each							
Nov. 1	Call % Dr.	GL 4	500	0	0			
	To ordinary share capital %	GL 3				500	0	0
	Being 10s. per share on 1,000 ordinary shares of £1 each							

Post the above journal entry to the ledger accounts. The discount on shares account really is a loss to the company, but must not be transferred to the profit and loss account, as it might use up all the profit for that year. So it is put on the assets side of the balance sheet and depreciated over a number of years. It really consists of this, that the shareholders pay part of the value of the shares at the time of issue and the remainder over a period of years: for the amount available for dividend is reduced by this amount. Shares can be issued at a discount only in certain circumstances.

Forfeiture of Shares

If a person refuses to pay his calls in arrears, the company may ultimately forfeit his shares after complying with certain formalities, provided it has power to do so in its articles of association. The ordinary capital is reduced by the amount called up on the shares forfeited. The man receives nothing for the amount he has paid and this amount appears as a credit in forfeited shares account and on the liabilities side of the balance sheet. Subsequently the company may re-issue these shares.

EXERCISE 16F

A company issued 100 shares of £5 each, payable £1 on application and £4 on call. Jones paid the application money on 10 shares but refused to pay his call money. The directors forfeited the shares on May 9.

			£	s.	d.	£	s.	d.
Application and allotment %	GL 1	100	0	0				
To ordinary share capital %	GL 3				100	0	0	
For £1 per share on 100 shares of £5								
Call %	GL 2	400	0	0				
To ordinary share capital %	GL 3				400	0	0	
For £4 per share on 100 shares of £5								

Application Account GL 1

To ordinary share capital %	J	£	s.	d.	By Cash	CB	£	s.	d.
		100	0	0			100	0	0

Call Account GL 2

To ordinary share capital %	J	£	s.	d.	By Cash	CB	£	s.	d.
		400	0	0	„ Forfeited shares %	J	360	0	0
		400	0	0			40	0	0
							400	0	0

Ordinary Share Capital Account GL 3

To Forfeited shares %	J	£	s.	d.	By Application %	J	£	s.	d.
		50	0	0	„ Call %	J	100	0	0
							400	0	0

Forfeited Shares Account GL 4

To Call %	c/d	£	s.	d.	By Share capital %	J	£	s.	d.
„ Balance		40	0	0			50	0	0
		10	0	0			50	0	0
		50	0	0	By Balance	b/d	10	0	0

CASH BOOK

To Application %	GL 1	£	s.	d.		£	s.	d.
„ Call %	GL 2	100	0	0				
		360	0	0				

May 9	Ordinary share capital %	Dr.	GL 3	£	s.	d.	£	s.	d.
	To forfeited shares %		GL 4	50	0	0			
	For 10 shares of £5 each, forfeited by resolution of directors dated May 8, 194..						50	0	0
„ 9	Forfeited shares %	Dr.	GL 4	40	0	0			
	To call %		GL 2				40	0	0
	Being calls unpaid on 50 shares forfeited								

Re-issue of Forfeited Shares

The £10 balance, shown in forfeited shares account, will appear as a liability in the balance sheet. It should not be taken to the profit and loss account because it is not a trading profit. If, subsequently, a man offered £40 for the shares, his £40 plus the £10 previously paid would equal £50, and the directors would re-issue the shares. If he paid £45 for the shares, the

company received £45 plus £10 for £50 shares ; so they have sold the shares at a premium of £5. The following journal entry is based upon the re-issue of the shares at £45.

		£	s.	d.	£	s.	d.
Aug. 1	Forfeited shares %	50	0	0			
	To ordinary share capital %				50	0	0
	For re-issue of £50 shares previously forfeited						
„ 1	Cash	45	0	0			
	To forfeited shares %				45	0	0
	Being cash paid for above shares						
„ 1	Forfeited shares %	5	0	0			
	To premium on shares %				5	0	0
	For premium paid on re-issue of shares						

The reader should now work this exercise through once again and post from the journal to the ledger.

EXERCISE 16G

Hudsons Ltd., issue 1,000 shares of £1 each, payable 5s. on application, 10s. on allotment and the balance of 5s. on call. All the shares are subscribed for, and paid with the exception of the call money on 30 shares. By resolution of the directors, these shares are forfeited on March 10, and re-issued on April 20 for 12s. per share. Show the journal and ledger entries.

Debentures

Debentures are loans to a company. They are not part of the capital and should be stated separately on the liabilities side of the balance sheet. The holders are not shareholders, but debentures holders. If these facts are borne in mind the issue of debentures at par, at a premium or at a discount, should present no difficulty, as the entries will be similar to those for the issue of shares. The following are typical entries :

Where debentures are fully paid in one amount.

	£	s.	d.	£	s.	d.
Sundry debenture holders	10,000	0	0			
To debentures				10,000	0	0
For issue of 100 debentures of £100 each						

Where debentures are fully paid in one amount and issued at a premium.

	£	s.	d.	£	s.	d.
Sundry debenture holders	10,500	0	0			
To debentures				10,000	0	0
„ premium on debentures				500	0	0
For 100 debentures of £100 each issued at 105						

Where debentures are issued in instalments and at a discount.

	£	s.	d.	£	s.	d.
Application and allotment (debentures) %	5,000	0	0			
To debentures				5,000	0	0
For £50 per debenture bond on 100 debentures of £100 each						
Call (debentures) %	4,700	0	0			
Discount on debentures %	300	0	0			
To debentures				5,000	0	0
For call money on 100 debentures of £100 each issued at 97%						

EXERCISE 16H

The J. Pinkerton Co. Ltd., whose authorized and issued capital consisted of 100,000 ordinary shares of £1 each, fully paid, and 100,000 preference shares of £1 each, fully paid, decided to issue 2,000 10 per cent debentures of £100 each, at a price of £97, payable £50 on application and allotment, and the balance on call, three months after allotment. The whole issue was subscribed, and allotment was made on May 1. The call money was all paid on August 1. Show the journal and ledger entries, and show how the balance sheet will appear.

EXERCISE 16 I

The R. Laice Co., Ltd., whose authorized and issued capital consisted of 5,000 ordinary shares of £10 each, offered for public subscription on August 1, 100 5 per cent debentures of £100 each at a price of £103, payable £53 on application, including the premium, and £50 on call two months later. The whole issue was subscribed for, and allotted. The call money was all paid on October 3. Show the entries in the journal, ledger and balance sheet.

Profit and Loss Appropriation Account

The net trading profit is carried down from profit and loss account to the credit of an appropriation account under the existing balance, if any; this balance will represent profits earned in previous years and not distributed by way of dividend. It would be wrong to put this balance on the credit of profit and loss account, as the current year's profit would be stated incorrectly.

On the debit is entered any interim dividends paid during the period. These have been paid in cash and posted to the debit of an interim dividend account, and from there transferred to the appropriation account. All other entries on the debit side will be appropriations of profit, that is, how the company proposes to share its profits, so much to reserve, so much for preference shares and so much for ordinary shares. As the cash book and ledger accounts are already closed, these payments cannot be made until next period, so they are shown as liabilities in the balance sheet.

In the following account the balance of £300 and the amounts appropriated for preference share and ordinary share dividends and for reserve will appear

on the liabilities side of the balance sheet ; but not the £500 for the interim dividend.

Profit and Loss Appropriation Account

	£	s.	d.		£	s.	d.	
To Interim div. on ord. shares .	500	0	0	By Balance .	b/d	800	0	0
„ Preference share dividend % .	1,000	0	0	„ Profit and loss % .	b/d	4,000	0	0
„ Ordinary share dividend % .	1,500	0	0					
„ Reserve % .	1,500	0	0					
„ Balance .	c/d	300	0					
	4,800	0	0			4,800	0	0
				By Balance .	b/d	300	0	0

EXERCISE 16J

The Regins Co., Ltd., was registered with a nominal capital of 20,000 ordinary shares of £1 each and 10,000 10 per cent preference shares of £5. From the following trial balance taken from the books of the company at December 31, 194 . . prepare trading and profit and loss accounts for the year ended and a balance sheet as on that date.

	£	s.	d.	£	s.	d.
15,000 ordinary shares of £1 each				15,000	0	0
Calls in arrears on above	250	0	0			
8,000 preference shares of £5 each				40,000	0	0
Purchases and sales	41,900	0	0	69,185	0	0
Discount received				300	0	0
10% debentures				20,000	0	0
Carriage inwards	200	0	0			
Debtors and creditors	3,400	0	0	2,950	0	0
Bad debts written off	65	0	0			
Bad debts reserve				125	0	0
Balance of profit and loss %				825	0	0
Stock	4,850	0	0			
Wages	18,000	0	0			
Transfer fees				15	0	0
Interest on debentures	1,500	0	0			
Cash at bank	1,085	0	0			
Machinery and plant	16,000	0	0			
Salaries	2,500	0	0			
Bills receivable and payable	2,100	0	0	1,600	0	0
Office expenses	350	0	0			
Rent, rates, and taxes	800	0	0			
Buildings	30,000	0	0			
Interim dividend on preference shares	2,000	0	0			
Goodwill	25,000	0	0			
	150,000	0	0	150,000	0	0

The following points require to be considered :

1. The debenture interest was paid up to September 30, 194...
2. The bad debts reserve is to be maintained at 5 per cent of sundry debtors.
3. Depreciate buildings 2½ per cent, machinery and plant 10 per cent.
4. Rates paid in advance amounted to £100.
5. Wages owing £50. Charge wages to trading account.
6. Charge 5 per cent of net profits as a bonus to the works manager.
7. Closing stock £9,100.
8. Show the proposal of the directors to appropriate £1,500 to general reserve account and to pay the balance of the dividend on the preference shares.

EXERCISE 16K

The following is the trial balance of Eucal Co., Ltd., whose nominal capital consists of 5,000 ordinary shares of £1 each, and 5,000 10 per cent preference shares of £1 each.

	£	s.	d.	£	s.	d.
Ordinary share capital %				5,000	0	0
Preference share capital %				5,000	0	0
Opening stock	2,840	0	0			
Purchases	41,680	0	0			
Purchases returns				120	0	0
Sales				65,721	0	0
Sales returns	172	0	0			
Wages	11,564	0	0			
Carriage inwards	132	0	0			
Salaries	2,600	0	0			
Office expenses	290	0	0			
Carriage on sales	430	0	0			
Discounts	85	0	0			
Bad debts	135	0	0			
Transfer fees				40	0	0
Interest on investments				500	0	0
Balance of profit and loss %				1,462	0	0
Creditors				1,684	0	0
Debtors	1,872	0	0			
Bills payable.				892	0	0
Cash in hand	149	0	0			
Cash in bank	856	0	0			
Investments	5,000	0	0			
Land and buildings	8,000	0	0			
Plant and machinery	5,000	0	0			
Bills receivable	1,214	0	0			
Rates	400	0	0			
Interim dividend on preference shares	500	0	0			
Interim dividend on ordinary shares	1,000	0	0			
Reserve				3,500	0	0
	83,919	0	0	83,919	0	0

Prepare trading account, and profit and loss account for the period ended

December 31, 194... and balance sheet as on that date, after taking into consideration the following :

1. Stock at close £3,518.
2. Create a bad debts reserve of £100.
3. Increase the reserve by £2,000.
4. Rates paid in advance £25.
5. Wages owing £800. Charge wages to trading account.
6. Depreciation on plant and machinery, 10 per cent.
7. Depreciation on land and buildings, $2\frac{1}{2}$ per cent.

Purchase of a Business

When a company purchases a business, a purchase price is agreed upon. Suppose a company takes over the assets and not the liabilities of a firm for a purchase price of £1,000. Then if the assets it acquires are worth £1,000, the purchase price agrees with the value of the assets. If, however, the assets are worth £600, then it must be assumed that the extra £400 is payment for goodwill.

Again, if a company takes over assets worth £1,000 and agrees to pay off liabilities of £200, the worth of the business it is acquiring is £800. So if the purchase price is £1,000, there is a payment of £200 for goodwill and this must be included in the books of the new company amongst the assets.

It must be remembered that the new company is not concerned with the value of the assets shown in the books of the old firm, but with their real value, the value at which it will wish to show them in its books. Thus in the last example, if the assets shown in the book at £1,000 were really worth £950, and the company wants to show them at that figure, it will have to show the goodwill at £250, for the worth of the business acquired is £750.

Two accounts are necessary : a business purchase account and a vendor's account.

The purchase price is shown on the debit of business purchase account and on the credit of vendor's account. The total of assets is shown on the credit of business purchase account and the accounts of individual assets are debited. Creditors and other liabilities are credited to their accounts and the total shown on the debit of business purchase account. If the business purchase account balances, then the purchase price equals the worth of the business taken over. If it does not, credit it with goodwill and open a goodwill account.

On the debit of vendor's account are shown the cash and shares given to the vendor. This should equal the purchase price.

EXERCISE 16L

Balance Sheet of A. Hope

	£	s.	d.	£	s.	d.		£	s.	d.	£	s.	d.
Cash in hand											100	0	0
Stock				500	0	0					1,000	0	0
Debtors : Jones				3,500	0	0		500	0	0			
Brown								1,000	0	0			
Plant and machinery											1,500	0	0
											1,400	0	0
				4,000	0	0					4,000	0	0

The A.B.C. Company, Ltd., is formed with authorized capital of £10,000 in ordinary shares of £1, to purchase the business of A. Hope whose balance sheet is shown at the foot of the opposite page.

The agreed purchase price of £4,000 was to be discharged by payment of 4,000 ordinary shares of £1 each. All assets except cash and all liabilities were to be taken over. The company issued the remainder of the share capital, payable 10s. on application and allotment, and 10s. on call.

Business Purchase Account GL 1

To Vendor being purchase price	£	s.	d.	By Sundry assets	£	s.	d.
„ Creditors	4,000	0	0	„ Goodwill	3,900	0	0
	500	0	0		600	0	0
	4,500	0	0		4,500	0	0

Vendor's Account GL 2

To Ordinary share capital	£	s.	d.	By Business purchase %	£	s.	d.
	4,000	0	0		4,000	0	0

Ordinary Share Capital Account GL 3

				By Vendor	£	s.	d.
				„ Application and allotment %	4,000	0	0
				„ Call %	3,000	0	0
					3,000	0	0

Application Account GL 4

To Ordinary share capital %	£	s.	d.	By Cash	£	s.	d.
	3,000	0	0		3,000	0	0

Call Account GL 5

To Ordinary share capital %	£	s.	d.	By Cash	£	s.	d.
	3,000	0	0		3,000	0	0

CASH BOOK

To Application %	£	s.	d.				
„ Call %	3,000	0	0				
	3,000	0	0				

Stock Account GL 6

To Business purchase %	£	s.	d.		£	s.	d.
	1,000	0	0				

BOOK-KEEPING

Jones' Account SL 1

To Business purchase $\frac{\%}{c}$	£	s.	d.			£	s.	d.
	500	0	0					

Brown's Account SL 2

To Business purchase $\frac{\%}{c}$	£	s.	d.			£	s.	d.
	1,000	0	0					

Plant and machinery GL 7

To Business purchase $\frac{\%}{c}$	£	s.	d.			£	s.	d.
	1,400	0	0					

Goodwill GL 8

To Business purchase $\frac{\%}{c}$	£	s.	d.			£	s.	d.
	600	0	0					

Andrew's Account BL 1

				By Business purchase $\frac{\%}{c}$		£	s.	d.
						500	0	0

The journal entries required are as follows :

			£	s.	d.	£	s.	d.
Business purchases $\frac{\%}{c}$	Dr.	GL 1	4,000	0	0			
To vendor's $\frac{\%}{c}$		GL 2				4,000	0	0
For agreed purchase price								
Stock $\frac{\%}{c}$	Dr.	GL 6	1,000	0	0			
Debtors : Jones		SL 1	500	0	0			
Brown		SL 2	1,000	0	0			
Plant and machinery		GL 7	1,400	0	0			
To business purchase $\frac{\%}{c}$		GL 1				3,900	0	0
Being value of assets taken over								
Business purchases $\frac{\%}{c}$	Dr.	GL 1	500	0	0			
To creditor : Andrews		BL 1				500	0	0
For liabilities taken over								
Goodwill $\frac{\%}{c}$		GL 8	600	0	0			
To business purchase $\frac{\%}{c}$		GL 1				600	0	0
Being excess value of purchase price over value of assets, less liabilities, taken over								

Continued on opposite page.

Continued from opposite page.

Vendor's % Dr.	GL 2	£	s.	d.	£	s.	d.
To ordinary share capital % .	GL 3	4,000	0	0	4,000	0	0
Being 4,000 ordinary shares of £1 each issued to vendor in consideration of purchase price.							
Application and allotment % Dr.	GL 4	3,000	0	0			
To ordinary share capital % .	GL 3				3,000	0	0
Being 10s. per share on 6,000 ordinary shares at £1 each							
Call % Dr.	GL 5	3,000	0	0			
To ordinary share capital % .	GL 3				3,000	0	0
Being 10s. per share on 6,000 ordinary shares of £1 each							

Balance Sheet

Liabilities				Assets			
	£	s.	d.		£	s.	d.
Nominal and issued share capital				Goodwill			500 0 0
10,000 ordinary shares of £1 fully paid	10,000	0	0	Plant and Machinery			1,400 0 0
Creditor: Andrews	500	0	0	Debtors: Jones	500	0	0
				Brown	1,000	0	0
	10,500	0	0	Stock			1,500 0 0
				Cash in hand			1,000 0 0
							6,000 0 0
							10,500 0 0

EXERCISE 16M

The X Y Z Company, Ltd., is formed to acquire the old-established business of Elstead Brothers, whose balance sheet shows the following assets and liabilities which are to be taken over:

Debtors £1,000, stock £600, plant and machinery £2,000, land and buildings £3,000, creditors £900.

The purchase price is £6,000 payable in ordinary shares at £1 each. The company values the plant and machinery at £1,800 and the land and buildings at £2,700. It issues the remainder of share capital, 4,000 ordinary shares £1 each, payable 15s. on application and allotment, and the balance on call; all is subscribed for. Show the above in the books of the X Y Z Company, Ltd., inserting appropriate dates. Journal entries should be made.

The answers to the exercises are on page 325-326.

LESSON SEVENTEEN

ACCOUNTS OF NON-TRADING CONCERNS

A NON-TRADING concern does not need to prepare a trading and profit and loss account for its members, but has to present instead some form of revenue account.

A Receipts and Payments Account is the simple form. It is really a classified C.S.E.—K*

summary of the cash book and is suitable for small athletic and social clubs, where the income from subscriptions in any year is usually spent in that year. All the receipts are shown on the debit side and the payments on the credit side, whether they belong to the current year or not. The opening and closing balances represent the cash in hand at the beginning and end of the period. No attempt is made to distinguish between capital expenditure and revenue expenditure, and assets and liabilities cannot be shown.

THE QUEEN'S PARK CRICKET CLUB

Receipts and Payments Account
for the year Ended October 31, 194...

	£	s.	d.		£	s.	d.
To Balance at Nov. 1	10	0	0	By Hire of cricket pitches	6	0	0
„ Donations	12	0	0	„ Tips to groundsmen	1	0	0
„ Subscriptions	5	0	0	„ New bats, pads, gloves	10	0	0
				„ Postages and Stationery	1	0	0
				„ Balance	9	0	0
				c/d			
	27	0	0		27	0	0
To Balance	b/d	9	0				

An Income and Expenditure Account shows the actual income and expenditure for the period, whether or not it is received or paid. Usually a club has a proper set of books, and this account is equivalent to a profit and loss account and is accompanied by a balance sheet showing the assets and liabilities of the society. The income is on the credit side and the expenditure on the debit side. The balance of the account shows the profit or loss for the year. This is added to or taken from the total of the balances for previous years, shown on the liabilities side of the balance sheet either as the capital account, or as an accumulated fund of the excess of income over expenditure.

When an income and expenditure account is kept, it is possible to distinguish between capital and revenue income and expenditure. The capital expenditure is shown as an asset in the balance sheet, the revenue expenditure in the income and expenditure account. Income which is not the ordinary income of the year may appear in the balance sheet, thus, some societies show entrance fees and life membership subscriptions, although they may transfer a percentage of the latter to the income and expenditure account.

EXERCISE 17A

The balances in the books of the Gentleman's Club were as follows on December 31, 194...

Cash in hand £10; cash at bank £325; investments £1,600; creditors £80; gas and electricity £94; rent, rates, taxes, £120; salaries of staff £620; salary of secretary £400; stationery £260; newspapers and magazines

£80; repairs and renewals £120; annual subscriptions £1,575; profit from sale of wine and spirits, £120; entrance fees £21; life membership fees £440; receipts from billiard room £150; dividends from investments £80; accumulated fund (capital account) £2,523; china and cutlery £300; furniture £1,000; stock of wines and spirits £150.

You are required to prepare an income and expenditure account and balance sheet after taking into consideration the following:

Salaries of staff due £10; stock of stationery in hand £20; annual subscriptions due £126; annual subscriptions in advance £63; depreciate china and cutlery by 10 per cent and furniture by 5 per cent; 10 per cent of life membership fees is to be taken to income and expenditure account.

THE GENTLEMAN'S CLUB

Income and Expenditure Account
for the year ended December 31, 194...

	£	s.	d.	£	s.	d.		£	s.	d.	£	s.	d.
To Rent rates and taxes				120	0	0	By Annual Subscriptions						
" Gas and electricity				94	0	0	" " "	1,575	0	0			
" Salary of staff	620	0	0				Add amount due	126	0	0			
" Add due	10	0	0										
				630	0	0	Less paid in advance	1,701	0	0			
" Salary of secretary				400	0	0	" "	63	0	0			
" Stationery	260	0	0				" Proportion of life membership fees				1638	0	0
" Less in hand	20	0	0				" Profit from sale of wines and spirits				44	0	0
				240	0	0	" Billiard Room Receipts				120	0	0
" Newspapers and magazines				80	0	0	" Dividends from investments				150	0	0
" Depreciation—Furniture	50	0	0								80	0	0
" China and cutlery	30												
" Repairs and Renewals				80	0	0							
" Balance being surplus of income over expenditure for the year				120	0	0							
				268	0	0							
				2,032	0	0					2,032	0	0

Balance Sheet as on December 31, 194...

	£	s.	d.	£	s.	d.		£	s.	d.	£	s.	d.
Sundry creditors				80	0	0	Cash in hand				10	0	0
Outstanding expenses				10	0	0	Cash at bank				235	0	0
Subscriptions in advance				63	0	0	Investments				1,600	0	0
Capital % (accumulated fund)—							Subscriptions due				126	0	0
Balance Jan. 1	2,523	0	0				Stock of stationery				20	0	0
Add surplus for year of income over expenditure							China and cutlery	300	0	0			
Add entrance fees	268	0	0				Less depreciation	30	0	0			
Add life membership fees	440	0	0				Furniture	1,000	0	0	270	0	0
	3,252	0	0				Less depreciation	50	0	0			
Less percentage of life membership fees carried to income and expenditure	44	0	0				Stock of wines and spirits				950	0	0
				3,208	0	0					150	0	0
				3,261	0	0					3,361	0	0

In preparing an income and expenditure account and balance sheet from a receipts and payments account, an opening entry must be made to show the assets and liabilities and the accumulated surplus at the beginning of the period.

All outstanding items of income and expenditure must be taken into consideration, otherwise the opening balance of the capital, or, as it may be termed, the accumulated surplus will be incorrect

EXERCISE 17B

From the receipts and payments account and the particulars given, prepare an income and expenditure account and balance sheet as on December 31, 194 ..

Receipts and Payments Account

	£	s	d		£	s	d
To Balance .	50	0	0	By Salaries and wages .	500	0	0
„ Subscriptions	900	0	0	„ Rent, rates, taxes	280	0	0
				„ Telephone	30	0	0
				„ Stationery	50	0	0
				„ Balance .	90	0	0
	950	0	0		950	0	0

1. Of the £900, £21 was paid in subscriptions for last year and £15 is in advance. There are 297 members paying a £3 subscription, and £24 was in arrears at the beginning of the year.
2. The rates are paid from March to March, £40 being in advance at the beginning and end of the year.
3. £12 is owing on telephone account, and £20 on wages and salaries. At the beginning of the year £18 was owing on wages.
4. The stock of stationery at the beginning of the year was £15, and at the end £10.
5. The furniture is worth £1,000 and should be depreciated at 2 per cent.
6. Investments are worth £1,000.

Opening entry

	£	s	d		£	s	d
Assets							
Furniture	1,000	0	0				
Investments	1,000	0	0				
Cash in hand	50	0	0				
Subscriptions	24	0	0				
Rates	40	0	0				
Stationery	15	0	0				
	2,129	0	0				
Less wages owing	18	0	0				
Capital fund	2,111	0	0				

INCOME AND EXPENDITURE ACCOUNTS

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Subscriptions Account

		£	s.	d.			£	s.	d.
To Balance . . .	b/d	24	0	0	By Cash last year . .		21	0	0
„ Income expen- diture % . . .		891	0	0	„ „ this year . . .		864	0	0
„ Balance . . .	c/d	15	0	0	„ „ next year . . .		15	0	0
					„ Balance . . .	c/d	30	0	0
		930	0	0			930	0	0
To Balance . . .	b/d	30	0	0	By Balance . . .	b/d	15	0	0

The amount owing from last year is £24 - £21 = £3, and from this year £891 - £864 = £27, a total of £30.

Salaries and wages . . . £500 + £20 - £18 = £502

Telephone . . . £30 + £12 = £42

Rent, rates, and taxes . . . £280 + £40 - £40 = £280

Stationery . . . £15 + £50 - £10 = £55

Income and Expenditure Account for Year ended December 31, 194...

	£	s.	d.		£	s.	d.
To Salaries and Wages . . .	502	0	0	By Subscriptions . .	891	0	0
„ Rent, rates and taxes . . .	280	0	0	„ Balance being surplus of expen- diture over income . . .	8	0	0
„ Telephone . . .	42	0	0				
„ Stationery . . .	55	0	0				
„ Depreciation . .	20	0	0				
	899	0	0		899	0	0

Balance Sheet as on December 31, 194...

Liabilities				Assets			
	£	s.	d.		£	s.	d.
Amounts owing				Cash in hand			
Telephone	12	0	0	Stationery			90
Salaries and wages	20	0	0	Furniture	1 000	0	0
				Less depreciation	20	0	0
Subscriptions in advance							980
Capital fund—Balance Jan 1	2,111	0	0	Investments			1,000
				Subscriptions in arrears			30
Less surplus of expenditure over income	8	0	0	Rates in advance			40
							2,150
							0
							0

EXERCISE 17C

How would you judge whether an item of expenditure should be considered capital expenditure or revenue expenditure?

EXERCISE 17D

What is the difference between a receipts and payments account and an income and expenditure account? Why is the former unsatisfactory?

The answers to the exercises are on page 326.

LESSON EIGHTEEN

CONSIGNMENT ACCOUNTS

SOMETIMES a manufacturer in one country consigns goods to his agent in another country. The person who sends the goods is called the consignor and the person who receives the goods is the consignee. The latter sells the goods at the best price he can obtain, and then forwards an account sales to the consignor, stating the amount for which he has sold the goods and the amount of his commission and expenses; and he usually forwards a remittance at the same time.

EXERCISE 18A

H. Jeans of Bolton, consigned cotton cloth to J. Jadham of Buenos Aires. The latter accepted a bill on May 10 for £250, and when he sold the goods forwarded an account sales showing that he had sold the cotton for £410, his expenses were £33, and his commission £34 17s. Prepare the account sales.

Account Sales of 25 cases of cotton cloth ex S.S. *Dhouli* sold for H. Jeans of Bolton by :

J. Jadham
Buenos Aires

Marks and Numbers		£	s.	d.	£	s.	d.
	15 cases of cotton goods at £20 per case				300	0	0
	5 cases at £22 per case				110	0	0
	Less				410	0	0
	Dock dues and expenses	33	0	0			
	„ Commission at 7½%	30	15	0			
	„ Del credere commission of 1%	4	2	0	67	17	0
					342	3	0
	Less bills payable accepted against con-						
	signment				250	0	0
	Balance due to H. Jeans				92	3	0

J. Jadham
June 30, 194...

Note.—A del credere commission is an extra commission given to the consignee to guarantee the solvency of his customers: if they do not pay him, he himself has to pay the consignor the amount due to him.

Entries in Consignee's Books

The consignee is interested in two things, his commission and the amount he owes the consignor. He is not interested in the profit made by the consignor. In addition to his cash book and bills payable book he will need a commission account and an account for the consignor.

When he receives the goods he makes no entry in his books.

Frequently a consignor sends the bill of lading and insurance documents together with a draft to his banker's agent in the town of the consignee. When the latter accepts the bill, the banker hands him the bill of lading, without which he cannot get the goods.

When the consignee accepts the draft he will credit his bills payable account and debit the consignor's account. When he pays dock dues, carriage and expenses, he credits cash and debits consignor's account. When he sells the goods for cash, he debits cash and credits the consignor's account. If he sells the goods on credit, he debits the customer's account and credits consignor's account. He debits the consignor's account and credits his commission account with the amount of his commission.

EXERCISE 18B

Record the transaction shown in Exercise 18A in the books of J. Jadhham.

H. Jeans Account									
		£	s.	d.			£	s.	d.
May 10	To Bills payable	250	0	0	June 30	By Cash proceeds of sale of consignment	410	0	0
June 1	„ Cash, dock dues and expenses	33	0	0					
„ 30	„ Commission %	30	15	0					
„ 30	„ Commission % (del credere)	4	2	0					
„ 30	„ Balance owing c/d	92	3	0					
		410	0	0			410	0	0
					Aug. 1	By Balance b/d	92	3	0

Bills Payable Account

	£	s.	d.			£	s.	d.
				May 10	By H. Jeans	250	0	0

Commission Account

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

BOOK-KEEPING

CASH BOOK

		£	s	d			£	s	d
June 30	To H Jeans (proceeds of sale of consign- ment)	410	0	0	June 1	By H Jeans (dock dues and ex- penses)	33	0	0

EXERCISE 18C

T. Priestley of Bradford consigned 20 pieces of cloth, each 60 yards in length, invoiced *pro forma* at £1 per yard, to J Budge of Lagos. The latter accepted a draft for £800 on April 1. The consignee forwarded an account sales on May 10 showing that he had sold 15 pieces at £80 per piece and 5 at £60 per piece. His expenses amounted to £50 and his commission was 10 per cent plus 1 per cent for *del credere* commission.

Show the account sales, and show the entries in the books of the consignee.

Note that the *pro forma* amount is merely given as an indication of the minimum amount at which the goods should be sold. No notice is taken of this figure in the accounts.

Entries in Consignor's Books

On consigning goods, the consignor does not enter the value in the credit of sales account because the whole of the consignment might be returned. Instead, he enters the cost price of the goods on the credit of goods on consignment account and debits a consignment account. The goods on consignment account shows the total amount of goods on consignment, and is later closed by transferring the balance to the credit of trading account or to the credit of purchases account.

A separate consignment account is made for each consignment, and it shows the net profit or net loss on each consignment. On the debit side is placed the cost price of the goods, expenses paid by the consignor, and expenses and commission of the consignee, on the credit is shown the amount for which the consignee has sold the goods. The balance is the profit or loss on the consignment and will be transferred to the credit of profit and loss account.

A consignee's account will be opened on receipt of the account sales, and there will be shown on the debit the amount for which the consignee has sold the goods, and on the credit his expenses and commission, and any bills or cash he has paid. The balance will be the amount owing to the consignor.

EXERCISE 18D

T. Dixon forwarded bicycles to T. Lord. The cost price was £500. His expenses, including freight and insurance, amounted to £80. The consignee sold the bicycles for £800. His expenses were £40 and commission £80. Show entries in the consignor's books. Lord settles by cheque.

Goods on Consignment Account GL 1

	£	s	d			£	s	d
				May 1	By Consignment to T. Lord	500	0	0

Consignment to T. Lord Account GL 2

		£	s.	d.			£	s.	d.
May 1	To Goods on consignment .				June 8	By T. Lord, proceeds of sale of consignment .			
		500	0	0					
" 2	" Cash expenses .	80	0	0			800	0	0
June 8	" T. Lord, expenses .	40	0	0					
" 8	" T. Lord, Comm. .	80	0	0					
" 30	" Balance to profit and loss % being profit on consignment.	100	0	0					
		800	0	0			800	0	0

T. Lord Account SL 1

		£	s.	d.			£	s.	d.
June 8	To Consignment % being proceeds of sale of consignment .				June 8	By Consignment % expenses .			
							40	0	0
		800	0	0	" 8	" Consignment % commission .	80	0	0
		800	0	0	" 30	" Bank .	680	0	0
							800	0	0

CASH BOOK

		£	s.	d.			£	s.	d.
June 30	To T. Lord .	680	0	0	May 2	By Consignment % expenses .			
							80	0	0
		680	0	0	" 30	" Balance . c/d	600	0	0
							680	0	0
July 1	" Balance . b/d	600	0	0					

The student will realize that the consignment account is a nominal account, whereas the consignee's account is a personal account.

EXERCISE 18E

R. Rhodes consigns goods which cost £1,000 to H. Hatfield. The latter accepts a bill for £700. Rhodes' expenses are £50. Hatfield sells three-quarters of the goods for £980. His expenses are £40 and commission £98.

Goods on Consignment Account

	£	s.	d.		£	s.	d.
				By Consignment to H. Hatfield	1,000	0	0

Consignment to H. Hatfield Account

	£	s.	d.		£	s.	d.
To Goods on con- signment	1,000	0	0	By Proceeds of sale of three-quar- ters of con- signment	980	0	0
„ Cash, expenses	50	0	0	„ Balance, being unsold stock of consignment at cost	250	0	0
„ Hatfield, ex- penses	40	0	0				
„ Hatfield, com- mission	98	0	0				
„ Balance to pro- fit and loss % being profit on sale of three-quarters consignment	42	0	0				
	1,230	0	0		1,230	0	0
To Balance	b/d	250	0				

H. Hatfield Account

	£	s.	d.		£	s.	d.
To Consignment %	980	0	0	By Bills receivable	700	0	0
				„ Consignment % expenses	40	0	0
				„ Consignment %, commission	98	0	0
				„ Balance	142	0	0
	980	0	0		980	0	0
To Balance	142	0	0				

Bills Receivable Account

	£	s.	d.		£	s.	d.
To H. Hatfield	700	0	0	By Bank	700	0	0

CASH BOOK

	£	s.	d.		£	s.	d.
To Bills receivable	700	0	0	By Consignment %, expenses	50	0	0

In connexion with the above exercise the following points should be noted :

When Hatfield forwards his bill for £700, the consignment account is not

affected. It is put on the credit of Hatfield's account, who thus becomes a creditor of Rhodes for £700.

Before the consignment account is balanced to show the profit and loss made, the cost price of the goods unsold is shown on the credit of consignment and brought down below the total on the debit side. You are really splitting the consignment into two parts, a consignment of £750 all of which is sold, and a consignment of £250 which is unsold.

Rhodes' expenses of £50 were incurred on the whole consignment of £1,000. Consequently, the expenses incurred in forwarding the £750 goods should be £37 10s., and the goods unsold should bear the £12 10s. It would therefore be more correct to add this amount to the balance of £250 on the credit of consignment and bring it down as £262 10s. In this case the profit would be increased to £54 10s.

If Hatfield's expenses were incurred in selling the £750 worth of goods, the whole of the £40 is rightly charged against the sale. But if the £40 was spent in landing charges and dock dues on the whole of the consignment received, then the £750 worth of goods sold should bear only £30 of the expenses. In such case the goods unsold would be shown as £250 plus £12 10s. plus £10 and the balance of £272 10s. brought down. In this case the profit would be increased to £64 10s.

If Hatfield paid £5 for discounting the bill receivable, the amount could be debited to consignment account and would reduce the profit. It is more customary to debit it to discount on bills account in the usual way.

EXERCISE 18F

R. Raymond consigned to T. Oates 20 cases of goods, *pro forma* invoiced at £50 a case. Oates accepted a draft for £600.

The cost price of the goods was £800. Raymond paid freight and insurance £55; other expenses £25.

Oates sold three-quarters of the goods for £900. He paid dock dues £15, warehouse charges £15, custom duty £80, carriage on the goods sold £20. He forwarded account sales on October 10, showing his expenses and his commission of £45.

1. Prepare account sales.
2. Show the entries in the book of Raymond.
3. Show the entries in the book of Oates.

The answers to the exercises are on page 326.

LESSON NINETEEN

MANUFACTURING ACCOUNTS

A MANUFACTURING account is an account to show the cost of the manufacture of goods. In its simplest form it resembles a trading account, but includes manufacturing wages, manufacturing expenses such as heat and light of factory, factory rent, factory expenses and depreciation of plant and machinery. Such a manufacturing account, which is frequently termed a trading account, is suitable for a small business which is satisfied

with knowing the gross profit ; that is the difference between the selling price of the manufactured goods and the cost of raw material plus wages and expenses necessary to make the goods ready for sale.

Manufacturing Account for the period ended December 31, 194...

	£	s.	d.	£	s.	d.		£	s.	d.	£	s.	d.
To Stock of finished goods as on January 1				1,000	0	0	By Sales				3,900	0	0
„ Stock of raw materials	800	0	0				„ Stock of finished goods as on December 31				1,200	0	0
„ Purchase of raw materials	1,200	0	0										
	2,000	0	0										
Less closing stock of raw materials	500	0	0										
				1,500	0	0							
„ Factory wages				1,000	0	0							
„ Factory expenses				500	0	0							
„ Balance :													
„ Gross profit				1,100	0	0							
				5,100	0	0					5,100	0	0

Most manufacturing firms desire to know the cost of the goods manufactured as distinct from the sale of the goods, and so have a manufacturing account as well as a trading account. In such cases there will be various stocks at the beginning and end of the period ; namely, the stock of raw materials, the stock of partly finished goods or of work in progress, and the stock of finished goods.

Manufacturing Account for the year ended December 31, 194...

	£	s.	d.	£	s.	d.		£	s.	d.	£	s.	d.
To Stock of raw materials and partly finished goods, January 1	1,000	0	0				By Cost of goods manufactured				7,600	0	0
„ Raw materials purchased	2,000	0	0										
„ Carriage on above	50	0	0										
	3,050	0	0										
Less closing stock of raw materials and partly finished goods	850	0	0										
„ Raw materials consumed				2,200	0	0							
„ Factory wages				3,000	0	0							
Prime cost of manufacture				5,200	0	0							
„ Factory oncost, rent, rates of factory	500	0	0										
„ Heat, light and power	600	0	0										
„ Depreciation of machinery	500	0	0										
„ Works manager's salary	800	0	0										
				2,400	0	0							
				7,600	0	0					7,600	0	0

On some occasions one figure is given for the stock of raw materials and partly finished goods. The difference between the opening figure and closing figure of the stock of raw materials when added to the raw materials purchased will give the raw materials consumed during the period. The difference between the opening and closing stock of partly manufactured goods is shown on the debit of manufacturing account.

The stock of finished goods at the beginning of the period appears in trading account as it does not affect the cost of manufacture for the period.

Trading Account for the year ended December 31, 194..

	£	s.	d.		£	s.	d.
To Stock of finished goods	2,400	0	0	By Sales	9,600	0	0
„ Manufacturing % cost of goods manufactured	7,600	0	0	„ Stock of finished goods	2,800	0	0
„ Balance being gross profit.	2,400	0	0				
	12,400	0	0		12,400	0	0

EXERCISE 19A

From the following balances extracted from the books of R. Robertson and Sons, Ltd., prepare a manufacturing account and trading account for the period ended December 31, 194...

	£	s.	d.
Stocks at January 1 :			
Raw materials	2,000	0	0
Partly finished goods	4,200	0	0
Finished goods	3,000	0	0
Stocks at December 31 :			
Raw materials	2,500	0	0
Partly finished goods	3,600	0	0
Finished goods	4,000	0	0
Purchase of raw material	10,000	0	0
Carriage on above	400	0	0
Factory wages	20,000	0	0
Rent and rates of factory	2,000	0	0
Light, heat, power of factory	1,800	0	0
Sales	44,900	0	0
Depreciation of plant and machinery	1,000	0	0

EXERCISE 19B

From the following trial balance of the Ventris Manufacture Co. Ltd., for the period ended December 31, 194..., prepare manufacturing account, trading account, profit and loss account and balance sheet as on December 31. The share capital consists of 2,000 ordinary shares of £10 each fully paid.

	£	s.	d.	£	s.	d.
Ordinary share capital %				20,000	0	0
Reserve %				3,000	0	0
Stock of raw materials	1,600	0	0			
Raw materials purchased	13,000	0	0			
Stock of finished goods	4,180	0	0			
Sales				39,380	0	0
Carriage on purchases	80	0	0			
Factory wages	4,140	0	0			
Rent and rates of factory	1,200	0	0			
Wages of foremen and factory supervisors	1,100	0	0			
Works manager's salary	850	0	0			
Office salaries	800	0	0			
Expenses and wages for showroom	1,050	0	0			
General expenses	780	0	0			
Insurance	230	0	0			
Bad debts written off	60	0	0			
Bad debts reserve				25	0	0
Discount received				90	0	0
Interim dividend	5,000	0	0			
Transfer fees				15	0	0
Cash in hand	80	0	0			
Cash in bank	930	0	0			
Bills payable				180	0	0
Bills receivable	260	0	0			
Debtors	620	0	0			
Fixtures and fittings	3,800	0	0			
Plant and machinery	8,700	0	0			
Land and buildings	14,000	0	0			
Creditors				270	0	0
Balance of profit and loss %				2,000	0	0
Heat, light and power of factory	2,500	0	0			
	64,960	0	0	64,960	0	0

1. The closing stock of raw materials is valued at £1,320 and finished goods at £5,320.
2. Depreciate land and buildings $2\frac{1}{2}$ per cent.
3. Wages owing £50.
4. Show the proposal of the directors to increase the reserve to £5,000 and to set aside £7,500 for dividend on share capital account.
5. Increase the bad debts reserve to 5 per cent of sundry debtors.

The answers to the exercises are on page 326.

LESSON TWENTY

SELF-BALANCING LEDGER

A LARGE firm may have several sales ledgers and several bought ledgers in addition to the general ledger. If a trial balance is taken out of the whole and an error discovered, much time will be wasted in locating the error. If the books are put on the self-balancing principle, a separate

trial balance can be taken out for each ledger. All that is necessary is to put a control account or adjustment account at the end of each separate ledger.

In the examples that follow we shall assume the business has three ledgers : bought ledger, sales ledger, and general ledger. But the method will hold good for any number of ledgers.

EXERCISE 20A

L. E. Charles started business with stock valued £150.

	£	s.	d.	£	s.	d.
Stock Dr.	150	0	0	150	0	0
To Capital						

Sales Journal			Sales Returns Book		
	£	s.	d.		£ s. d.
A. Luck	110	0	0	A. Luck	10 0 0
B. Kidd	60	0	0	B. Kidd	4 0 0
Sales % . Cr.	170	0	0	Returns in Dr.	14 0 0

CASH BOOK (Debit Side)

	Dis. All.			Cash Sales			S.L.			Sundries			Bank		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
To A. Luck . . .	5	0	0				85	0	0				85	0	0
„ B. Kidd . . .	2	0	0				45	0	0				45	0	0
„ Sales				20	0	0							20	0	0
	7	0	0	20	0	0	130	0	0				150	0	0
To Balance . . b/d										150	0	0	150	0	0

Post to accounts in the sales ledger and general ledger and make each ledger self-balancing.

There is no need to copy out the books of original entry given above.

Now you have posted, let us look first at the sales ledger. Luck has a debit balance of £10 and Kidd of £9. If we took out a trial balance, there would just be these two debit balances. Now cover these accounts, so that you will not refer to them, and make a general ledger adjustment account by selecting the facts from the books of original entry. This account will be the third in the sales ledger.

Ask yourself what accounts in the general ledger have been affected by the transactions of Luck and Kidd : they are sales, returns, cash received, discount. The total of sales from the sales journal is written in the adjustment account on the same side as it appears in the sales account in the general ledger, namely the credit. Similarly the total of returns book is written on the debit as it would be in a returns account. The total of the discount allowed column is likewise written on the debit. The total of the sales ledger column on the debit of cash book shows the total received from

debtors, and this is written on the debit side. The adjustment account is as follows :

General Ledger Adjustment Account

		£	s.	d.			£	s.	d.
To Returns	.	14	0	0	By Sales	.	170	0	0
„ Cash	.	130	0	0					
„ Discount	.	7	0	0					
„ Balance	c/d	19	0	0					
		170	0	0			170	0	0
					By Balance	b/d	19	0	0

Trial Balance of Sales Ledger

		£	s.	d.		£	s.	d.
Luck's %	SL 1	10	0	0				
Kidd's %	SL 2	9	0	0				
General ledger adjustment %	SL 3					19	0	0
		19	0	0		19	0	0

Now let us consider the general ledger. We cannot take out a trial balance of this, because it lacks that part of the entries found in the debtors' accounts. We shall, therefore, prepare a sales ledger adjustment account which will be the last account in the general ledger.

Sales Ledger Adjustment Account

		£	s.	d.			£	s.	d.
To Sales	.	170	0	0	By Returns	.	14	0	0
					„ Cash	.	130	0	0
					„ Discount	.	7	0	0
					„ Balance	c/d	19	0	0
		170	0	0			170	0	0
To Balance	b/d	19	0	0					

If you compare it with the general ledger adjustment account it will be seen that the sides are reversed, debit for credit and credit for debit.

The trial balance of the general ledger is as follows :

		£	s.	d.		£	s.	d.
Cash book balance	.	150	0	0				
Stock	.	150	0	0				
Capital	.					150	0	0
Sales %	.					190	0	0
Returns %	.	14	0	0				
Discount allowed	.	7	0	0				
Sales ledger adjustment %	.	19	0	0				
		340	0	0		340	0	0

EXERCISE 20B

U. Wilson keeps accounts in a bought ledger, sold ledger and general ledger. Post the items in the books of original entry to the ledgers and make each ledger self-balancing. Start the exercise by inserting the following accounts, with balances brought down from last period.

- Sales Ledger**
1. Steele, Dr. balance £110.
 2. Banbury, Dr. balance £40.
 3. General ledger adjustment account, Cr. balance £150.
- Bought Ledger**
1. Green, Cr. balance £95.
 2. Lees, Cr. balance £85.
 3. General ledger adjustment account, Dr. balance £180.
- General Ledger**
1. Stock account, Dr. balance £60.
 2. Capital account, Cr. balance £230.
 3. Sales ledger adjustment account, Dr. balance £150.
 4. Bought ledger adjustment account, Cr. balance £180.
 5. Sales account, no balance.
 6. Returns inwards account, no balance.
 7. Returns outwards account, no balance.
 8. Discount allowed account, no balance.
 9. Discount received account, no balance.
 10. Purchases account, no balance.

CASH BOOK

	Debit		Cash Sales		S.L.		Sundry		Bank			Debit		Cash Purchases		B.L.		Sundry		Bank	
To Balance	£	s.	£	s.	£	s.	£	s.	£	s.	By Green	£	s.	£	s.	£	s.	£	s.	£	s.
- Steele	10	0			100	0			100	0	- Lees	5	0			105	0			105	0
- Banbury	40	0			20	0			20	0	- Purchases	10	0			115	0			115	0
- Sales			80	0					80	0	- Balance	30	0					150	0		
	140	0	80	0	120	0	20	0	180	0		45	0	30	0	220	0	150	0	150	0
To Balance	by						20	0	160	0											

PURCHASES JOURNAL

	£	s.	d.
Green	100	0	0
Lees	125	0	0
Purchases %	225	0	0

PURCHASES RETURNS BOOK

	£	s.	d.
Green	5	0	0
Lees	25	0	0
Returns out	30	0	0

SALES JOURNAL

	£	s.	d.
Steele	220	0	0
Banbury	80	0	0
Sales %	300	0	0

SALES RETURNS BOOK

	£	s.	d.
Steele	20	0	0
Banbury	10	0	0
Returns inwards	30	0	0

In U. Wilson's bought ledger there are two creditors, Green and Lees, who have credit balances. To make this bought ledger self-balancing, we must make a general ledger adjustment account, which will contain the totals of the purchases book, returns outwards book, and cash paid to creditors:

in other words, it will present the other aspect of each transaction, namely, that part which is shown in the general ledger accounts. The information to make this adjustment account must be taken from the books of original entry, and not from the bought ledger itself. On the debit side will be the original balance of £180, which will have been brought down from the last period and will equal the total of the two balances in the creditors' accounts. Also on the debit side will be the total of purchases, obtained from the purchases book.

On the credit side will be the total of returns outwards, obtained from the total of returns outwards book; also the cash paid to creditors, which will be obtained from the total of the bought ledger column on the credit side of the cash book; and the total of the discounts received obtained from the discount column on the credit side of the cash book. This account will then be balanced down and, if a trial balance of the bought ledger is taken out, it will be found that this balance equals the balances in the personal accounts.

The sales ledger contains the accounts of Steele and Banbury, both of which have a debit balance. The general ledger adjustment account in the sales ledger will be made from the books of original entry. It will contain on the credit side an opening balance which will have been brought down from the last period and which will equal the opening balances in the debtors' accounts. On the credit will also be shown the total sales, obtained from the total of sales book. On the debit side will appear the total returns, obtained from the total of sales returns book, the cash received from the debtors, found in the total of the sales ledger column on the debit side of cash book, and the discount allowed to debtors, found in the discount column of cash book. The balance of general ledger adjustment account when brought down, can be used in the trial balance of the sales ledger.

The general ledger has no debtors' or creditors' accounts and therefore a trial balance cannot be taken, without putting in two adjustments accounts; a sales ledger adjustment account, which is really the total debtors' account and resembles a debtor's account, and secondly, a bought ledger adjustment account, which is really a total creditors' account and resembles a creditor's account in the items included. A sales ledger adjustment account has an opening balance and the total sales on the debit side, and on the credit side appear the total returns inwards, the cash received from debtors and discount allowed to them. It has the same items as the general ledger adjustment account in the sales ledger, but the items are on the reverse side.

A bought ledger adjustment account has an opening balance and purchases on the credit side, and on the debit side it has returns, cash paid and discounts allowed. A trial balance should now be taken out and the balances of these two adjustment accounts included.

It is important to realize that in the preparation of an adjustment account all the facts must be obtained from the books of original entry and not from ledger accounts.

EXERCISE 20C

Prepare a sales ledger adjustment account in the general ledger for month of December, 194..., from the following :

LEDGER ADJUSTMENT ACCOUNTS

315

		£	s.	d.
Dec. 1	Debit balances at date	200	0	0
" 1	Reserve for doubtful debts	100	0	0
" 31	Sales	180	0	0
" 31	Returns	10	0	0
" 31	Cash received	210	0	0
" 31	Acceptances received	15	0	0
" 31	Bills dishonoured	5	0	0
" 31	Discounts allowed	8	0	0
" 31	Bad debts written off	25	0	0

Note that the reserve for bad and doubtful debts does not affect an entry in the sales ledger and, therefore, will not be in the adjustment account.

EXERCISE 20D

Prepare the general ledger adjustment account in the bought ledger at December 31, 194 . . . , from the following :

		£	s.	d.
Nov. 30	Credit balances at date	910	0	0
Dec. 31	Purchases	1,200	0	0
" 31	Purchases returns	50	0	0
" 31	Cash paid	1,000	0	0
" 31	Discounts received	45	0	0
" 31	Bills payable	400	0	0
" 31	Cash received from creditor	10	0	0

EXERCISE 20E

Prepare the general ledger adjustment account in the sales ledger of T. Hands, from whose books the following details were obtained.

		£	s.	d.
Jan. 1	Sales ledger balances total	906	0	0
Dec. 31	Sales	1,654	0	0
" 31	Sales returns	86	0	0
" 31	Cash received from customers	1,710	0	0
" 31	Cheques dishonoured	20	0	0
" 31	Bills accepted by customers	340	0	0
" 31	Bills dishonoured	60	0	0
" 31	Bad debts written off	78	0	0
" 31	Cash discount allowed	90	0	0
" 31	Bad debts, previously written off, recovered	85	0	0

Note that the bad debts previously written off and now recovered will not appear in the adjustment account because the two accounts affected, namely, cash book and bad debts recovered account, are both part of the general ledger and no entry is made in the sales ledger.

EXERCISE 20F

Prepare bought ledger adjustment account in the general ledger for the following balances.

		£	s.	d.
Dec. 1	Balances	800	0	0
" 31	Purchases	1,200	0	0
" 31	Returns	50	0	0
" 31	Cash paid	810	0	0
" 31	Discounts	20	0	0
" 31	Bills payable accepted (including renewals) .	900	0	0
" 31	Bills payable withdrawn upon renewal .	100	0	0
" 31	Interest on bills payable renewed . . .	2	0	0

EXERCISE 20G

Prepare bought ledger and sales ledger adjustment accounts from the following balances in the accounts of a trader.

		£	s.	d.
Jan. 1	Debtors' balances	280	0	0
" 1	Creditors' balances	410	0	0
Dec. 31	Sales	640	0	0
" 31	Purchases	400	0	0
" 31	Returns inwards	20	0	0
" 31	Returns outwards	25	0	0
" 31	Discounts received	18	0	0
" 31	Discounts allowed	15	0	0
" 31	Bad debts	34	0	0
" 31	Bills receivable	200	0	0
" 31	Bills payable	120	0	0
" 31	Bills receivable dishonoured	30	0	0
" 31	Debtors' cheques dishonoured	35	0	0
" 31	Cash received	580	0	0
" 31	Cash paid	540	0	0

The answers to the exercises are on page 326.

LESSON TWENTY-ONE

MACHINE ACCOUNTANCY

THE important point to realize in connexion with mechanical accounts is that there is no departure from the principles as taught in this book-keeping section. The forms will be different but the double entry principle underlies the whole. Time is saved and greater accuracy obtained by typing at one operation two or more documents and by the fact that a balance is struck by the machine for each item posted.

Thus, carbon copies of the invoice will give a ledger posting copy which takes the place of a day book, an order to dispatch, a delivery note, and a departmental copy or salesman's copy. Items posted to the ledger are entered on the statement and the balance shown on both. The debit side of the cash book, the cash receipts and bank paying-in slip are typed in one operation. The cheque is typed in the same operation as the credit of cash book.

In order that carbon copies can be taken, standard rulings are adopted

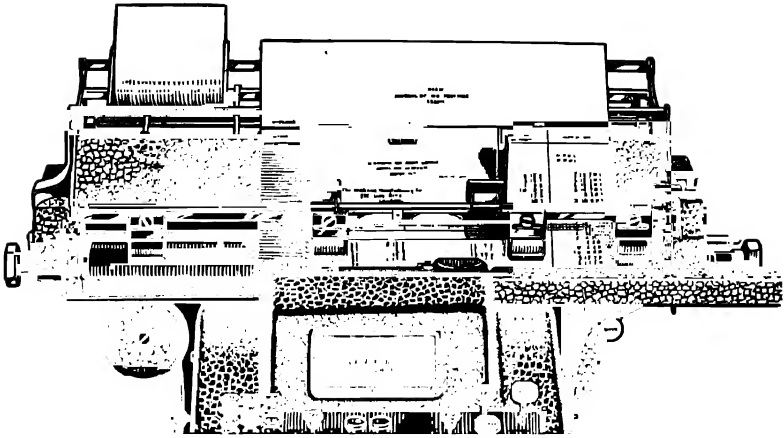


Fig. 1. *Example of a popular accounting machine used by many large firms.*

for all the book-keeping documents. The ordinary ledger ruling is changed to a three columned ruling for debit, credit, and balance.

The cash book consists of two separate sheets. With the cash received sheet it is possible to link up the bank paying-in slip and the receipt. With the cash payments sheet it is possible to align the cheque.

The growth of machine accounting has recently been so great that even small firms now find machines to meet their requirements. The advantages are enormous. All work is balanced and proved as it is done, and this eliminates the work and worry associated with the end of a period under the pen and ink method. Everything is always up to date, so that the management can have relevant information in several different forms almost immediately. Stock control, the testing of physical stock-taking, and the reduction of the work of stock-taking to a minimum are facilitated by the ease with which figures leading to the present stock position can be grouped and aggregated.

The machines are almost invariably self-balancing and useful cross-checks quickly become apparent. Altogether there is greatly increased efficiency of the accounting system as a whole, for there is an inducement to keep all parts of the system up to the higher level, and this usually with an economy in space, stationery and capital.

The machines used are of two main types. First, machines capable of handling any accounting problem, and quickly adapted to any particular work: these machines are usually subsidiary to a typewriter or have a typewriter attachment. Second, machines which are most valuable when a great deal of statistical work is involved: these are usually punch card machines and are used solely for work such as ledger posting and expenditure analysis. The modifications of these main types are numerous. The chief task is to find the machine that is suitable for the work of the business, not to make the business fit the machine.

BOOK-KEEPING

ANSWERS TO EXERCISES

Lesson One

1A Firm A £90; Firm B £30; Firm C £370; Firm D £650.

1B Firm A profit £2; Firm B loss £5; Firm C £220; Firm D £150;
Firm E £100; Firm F £90.

1C Capital Jan. 1 £100; capital Dec. 31 £115; profit £15.

1D See page 196.

Lesson Two

	Cash Balance			Trial Balance			Gross Profit			Net Profit			Balance Sheet Total		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
2B	135	0	0	215	0	0	35	0	0				135	0	0
2C	115	0	0	205	0	0	65	0	0				115	0	0
2D	49	0	0	114	0	0	9	0	0				49	0	0
2E	113	0	0	205	0	0	13	0	0				113	0	0
2F	62	0	0	115	0	0	18	0	0	12	0	0	62	0	0
2G	86	0	0	152	0	0	34	0	0	26	0	0	86	0	0
2H	91	0	0	210	0	0	6	0	0	Net Loss	£9		91	0	0

2I See pages 196 and 198.

2J See pages 201-3.

2K Balance sheet shows position on one day, and should be headed "as on December 31".

2L See pages 203-4.

2M See pages 201 and 204.

Lesson Three

3A Cash balance £12; bank £80.

3B Cash balance £10; bank balance £25.

3C Cash balance £10; bank balance £202.

3D Cash balance —; bank balance £262.

	3E			3F			3G		
	£	s.	d.	£	s.	d.	£	s.	d.
Cash balance				2	0	0	5	0	0
Bank balance	124	0	0	128	0	0	103	0	0
Trial balance	248	0	0	210	0	0	199	0	0
Gross profit	26	0	0	20	0	0	2	15	0
Net profit	14	0	0	10	0	0	12	Loss	
Balance sheet	124	0	0	130	0	0	108	0	0

3H See pages 205 and 206.

3I Profit.

3J See pages 210 and 211.

Lesson Four

					1st Period			2nd Period		
					£	s.	d.	£	s.	d.
4B	Cash balance	.	.	.	15	0	0			
	Bank balance	.	.	.	445	0	0	470	0	0
	Trial balance	.	.	.	620	0	0	590	0	0
	Gross profit	.	.	.	40	0	0	5	0	0
	Net profit	.	.	.	30	0	0	Loss	£ 10	0
	Balance sheet total	.	.	.	530	0	0	500	0	0

Stock Account

4C	Jan. 1	To Balance	£ 600	s. 0	d. 0	Dec. 31	By Trading %	£ 600	s. 0	d. 0
	Jan. 1	To Trading %	740	0	0					

4D Profit February £32, March £21.

Lesson Five

					5A			5B		
					£	s.	d.	£	s.	d.
	Total of purchase book	.	.	.	31	14	6	135	0	0
	Total of sales book	.	.	.				191	2	0
	Cash book balance	.	.	.	13	3	0	89	14	0
	Trial balance totals	.	.	.	95	17	6	361	2	0
	Gross profit	.	.	.	11	0	6	46	2	0
	Net profit	.	.	.	9	0	6	23	2	0
	Balance sheet totals	.	.	.	55	5	6	193	2	0

5C	Total of purchase book	.	.	.	£ 49	s. 10	d. 0
5D	See specimen on page 320.						
5E	Total of sales book	.	.	.	21	18	6
5F	Trial balance total	.	.	.	221	0	0
5G	See specimen on page 320.						
5H	Trial balance total	.	.	.	1,221	18	6
	Bank balance	.	.	.	196	2	6

INVOICE

York Street,
Leeds.

September 1, 194..

J. Jackson,
Southampton Road
Winchester.

BOUGHT OF WEST & WOOD

	£	s.	d.
3 pairs blankets at £2 10s. per pair	7	10	0
6 pillow cases at 5s. 6d. each	1	13	0
	9	3	0
Less trade discount of 33 $\frac{1}{3}$ %	3	1	0
Carriage paid per L.N.E.R. E. and O.E.	6	2	0

Lesson Six

6A See page 228.

6B 1. Debit of Raines' account. Included in total of returns outward account.

2. Debit of purchases account. Cash and creditors' accounts.

3. Debit of returns inwards account (sales returns account). Credit of debtors' accounts.

4. Debit of Ronald's account. Included in total of sales account.

6C 1. Debit of returns inwards. Credit of Stafford's account.

2. Debit of returns inwards account. Credit of Templeman's account.

3. Debit of King's account. Credit of returns outwards.

6D See pages 228 and 229.

On debit of Leeson's account, and on the credit of returns outwards account will be £20.

	£	s.	d.	£	s.	d.
6E Purchases book	13	10	0	9	0	0
Purchases returns book	0	15	0			
Sales book	29	3	10	18	6	0
Sales returns book	0	11	3			
Cash book balances	85	0	0	166	0	0
Trial balance	312	13	10	346	18	7
Trading account total	108	12	7	118	6	0
Gross profit	35	17	7	39	6	0
Net profit	26	17	7	30	6	0
Balance sheet total	219	12	7	248	18	7

Lesson Seven

7A 1. Discount received account, credit.

2. Discount allowed account, debit.

3. No account.

7B Cash balance £4. Bank balance £172 17s. 6d.

Discount Received Account

To P. and L. %	£	s.	d.	By Sundries	£	s.	d.
	1	17	6		1	17	6

Discount Allowed Account

To Sundries	£	s.	d.	By P. and L. %	£	s.	d.
	4	0	0		4	0	0

7C See pages 224 and 231.

7D		£	s.	d.
	Purchases book	126	0	0
	Sales book	52	0	0
	Purchases returns book	9	0	0
	Cash balance	4	0	0
	Bank balance	141	0	0
	Trial balance	279	0	0
	Gross profit	65	0	0
	Net profit	60	0	0
	Balance sheet total	205	0	0

Lesson Eight

8B Capital account £310.

8C Fixtures and fittings—
To Hardons Ltd. account
Office furniture—
Shop fittings—
To Parsons and Sons Ltd.

R. Snell account—
To Fixtures and fittings.

8I Jenkinson account—
To Jenkins account.
R. T. Hughes & Sons account—
To S. Hughes account.
Robertshaw's account—
To Repairs account.

R. Severn account—
To R. Stern account.
Drawings account—
To Office expenses account.
Office equipment account—
To Office expenses account.

Lesson Nine

9A	Gross profit (if wages in trading %)	£	s.	d.
	Net profit	273	0	0
	Balance sheet total	1,360	0	0

9B See pages 241-242.

9C	Gross profit (if wages in trading %)	£	s.	d.
	Net loss	106	0	0
	Balance sheet	1,026	0	0

9D

	£	s.	d.
Purchases Book	120	0	0
Sales Book	191	14	0
Capital	1,000	0	0
Sales Returns Book	18	0	0
Cash Balance	2	0	0
Bank Balance	229	5	0
Discount allowed	2	10	0
Discount received	3	15	0
Trial Balance Total	1,365	9	0

Lesson Ten

10B

Purchases Account

	Total	A	B	C	D		Total	A	B	C	D
To Credit purchases for month	£ 140 0 0	£ 33 0 0	£ 30 0 0	£ 15 0 0	£ 70 0 0	By Transfer to Trading %	£ 120 0 0	£ 33 0 0	£ 30 0 0	£ 15 0 0	£ 70 0 0

10E	£	s.	d.		£	s.	d.		£	s.	d.
Gross profit Total	1,070	0	0	Dept. A	470	0	0	Dept. B	660	0	0
Gross loss				Dept. C	60	0	0				
Net profit Total	395	0	0	Dept. A	245	0	0	Dept. B	360	0	0
Net loss				Dept. C	210	0	0				
Total of Balance Sheet	2,460	0	0								

Lesson Eleven

	11B			11C		
	£	s.	d.	£	s.	d.
11B/C Balance	29	6	0	147	15	6
Total Discount allowed	3	10	0	2	1	0
„ Sales ledger	85	10	0	38	19	0
„ Cash sales	46	9	6	118	12	6
„ Sundries	100	0	0	160	0	0
„ Discount received	2	17	6	4	1	3
„ Bought ledger column	104	2	6	77	13	6
„ Cash purchases	65	8	6	73	10	0
„ Sundries	62	8	6	166	8	0
„ Bank column	231	19	6	317	11	6

11E Balance 17s. 9d.; totals of columns: travelling £2 2s. 6d.; sundries 3s. 6d.; postages 5s. 3d.; ledger £1 1s.; office cleaning 10s.

- 11F Balance £5; delivery expenses £1 11s. 6d; total expenditure £4 11s.; repairs and maintenance 8s. 6d.; cash purchases 18s.; ledger £1 13s.

Lesson Thirteen

13D	Depreciation % Dr.	£	s.	d.	£	s.	d.
	To Freehold works	200	0	0	200	0	0
	For depreciation at agreed amount.						

13E 1st Year depreciation is £80.

2nd Year depreciation is £72.

13F As 13B and C.

13G Percentage method for motor lorries; revaluation for tools; fixed instalment for leasehold premises; the others can be percentage or fixed.

13J	Bad debts % Dr.	£	s.	d.	£	s.	d.
	To M. Price's %	190	0	0	190	0	0
	For balance of % written off as irrecoverable.						

13K	1st Year	Profit and loss % . Dr.	£	s.	d.	£	s.	d.
		To Bad debts reserve %	35	0	0	35	0	0
		For creation of reserve.						
	2nd Year	Profit and loss % . Dr.	12	10	0	12	10	0
		To Bad debts reserve %						
	3rd Year	Bad debts reserve % .	7	10	0	7	10	0
		To Profit and loss % .						

13L Gross profit £540; net trading profit £190; net profit after deduction of interest on capital £75; balance sheet total £2,960.

Lesson Fourteen

14A	June 2	S. Snail % Dr.	£	s.	d.	£	s.	d.
		To Bills payable % . . .	250	0	0	250	0	0
14B	Mar. 2	Bills receivable % . . Dr.	200	0	0	200	0	0
		To Jacks						
	June 10	Jacks Dr.	2	0	0	2	0	0
		To Interest on bills . . .						
	June 10	Bills receivable % . . Dr.	202	0	0	202	0	0
		To Jacks						
14C	July 1	Bills receivable % . . Dr.	300	0	0	300	0	0
		To R. Small						

	£	s.	d.
14D Total of trading account	32,690	0	0
Gross profit	4,535	0	0
Total of profit and loss	4,595	0	0
Net profit	2,825	0	0
Total of balance sheet	15,690	0	0

14E Debits :	£	s.	d.
Cash in hand	10	0	0
Cash in bank	139	0	0
Plant	400	0	0
Bills receivable	145	0	0
Bad debts	160	0	0
Purchases	140	0	0
Discount on bills	1	0	0
Credits :			
Bills payable	200	0	0
Capital	670	0	0
Sales	125	0	0

Lesson Fifteen

15C Roger's current account : credit balance	£	s.	d.
Bayly's current account : credit balance	125	0	0
	560	0	0

15D Rivett's current account : credit balance	£	s.	d.
Marston's current account : credit balance	225	0	0
	975	0	0

A's Current Account

15G To Cash.	£	s.	d.
	500	0	0
By C's premium %	£	s.	d.
	500	0	0

15H X's Capital Account

	£	s.	d.
By Balances	£	s.	d.
„ Z's premium %	2,000	0	0
	600	0	0

X will have half.

Y will have quarter,

15I Goodwill %	£	s.	d.
To Lee's capital %	1,000	0	0
„ Gee's capital %	500	0	0
For goodwill raised on introduction of Mee.	500	0	0

15J Gross profit, £3,965 ; net profit, £1,046 10s. ; balance sheet, £7,694.

	£	s.	d.
15K Total of sales book	170	0	0
" " purchases book	90	0	0
" " returns outward	5	0	0
" " returns inward	10	0	0
" " trial balance	785	10	0
Gross profit	85	0	0
Net profit	59	8	4
Balance sheet	644	10	0

Lesson Sixteen

			£	s.	d.	£	s.	d.
16B	Application and allotment %	Dr.	GL 1	200	0			
	To Ordinary share capital		GL 4			200	0	0
	First call %	Dr.	GL 2	300	0			
	To Ordinary share capital		GL 4			300	0	0
	Second call %	Dr.	GL 3	500	0			
	To Ordinary share capital		GL 4			500	0	0

Second Call Account. GL. 3

To Ordinary share capital	£	s.	d.	By Cash	£	s.	d.
500	0	0		475	0	0	

16C As 16B but with amount—£400

		£	s.	d.
16G	Cash book debit balance	1,010	10	0
	Premium on shares $\frac{1}{2}$ Cr. balance	10	10	0
	Share capital $\frac{1}{2}$ Cr. balance	1,000	0	0

	£	s.	d.	£	s.	d.
16H Application and allotment (debentures) % . . . Dr.	100,000	0	0			
To Debentures				100,000	0	0
For £50 on 2,000 10% debentures of £100 each allotted by resolution of directors						
First and final call (debentures) % Dr.	94,000	0	0			
Debenture discounts %	6,000	0	0			
To Debentures				100,000	0	0
For call on £47 and discount of £3 on 2,000 10% debentures issued at 97.						
16I Application and allotment (debentures) % . . . Dr.	5,300	0	0			
To Debentures				5,000	0	0
„ Premium on debentures . . .				300	0	0
For £53, including premium, on allotment of 100 5% debentures of £100						

- 16J Gross profit, £13,285; net profit, £5,590; total of appropriation account, £6,415; total of balance sheet, £84,265.
- 16K Total of trading account, £69,067; gross profit, £12,171; net profit, £7,996; total of appropriation account, £9,458; total of balance sheet, £24,834.
- 16M Goodwill, £800; ordinary share account, £10,000; cash balance, £4,000.

Lesson Seventeen

- 17C Capital expenditure for purchase of assets to earn income; revenue expenditure for expenses of conducting the business and for renewals and repairs.
- 17D See pages 297-298.

Lesson Eighteen

- 18C Credit balance of T. Priestley's account £485; credit of commission account £150 plus £15; debit balance of cash book £1,450; credit balance of bills payable £800.
- 18F In Oates' book, debit balance of cash book £770; credit balance of commission account £45; of Raymond's account £125; of bills payable account £600.
- In Raymond's book, credit balance for goods on consignment account £800; of cash book £80; debit balance of Oates' account £125; of bills receivable £600; debit balance of consignment account £247 10s. if three quarters of expense except carriage be included. Profit £92 10s.

Lesson Nineteen

- 19A Cost of goods manufactured, £35,300; gross profit, £10,600.
- 19B Cost of goods manufactured, £23,200; gross profit, £17,320; net profit, £14,149; balance of appropriation account, £1,649; total of balance sheet £34,649.

Lesson Twenty

- 20B General ledger adjustment account in sales ledger; credit balance £150.
Total of sales ledger trial balance £150.
General ledger adjustment account in bought ledger; debit balance £130.
Total of bought ledger trial balance £130.
Total of general ledger trial balance £785.
- 20C Debit balance of adjustment account £117.
- 20D Debit balance of adjustment account £625.
- 20E Credit balance of adjustment account £336.
- 20F Credit balance of adjustment account £322.
- 20G Credit balance of bought ledger adjustment account £107.
Debit balance of sales ledger adjustment account £136.

SECTION VI

BASIC COMMERCIAL KNOWLEDGE

LESSON ONE

INTRODUCTORY SURVEY

THE object of this series of lessons is to provide the student with a background of basic commercial knowledge and to illustrate the working of economic principles in the sphere of industry and commerce. Modern business organization grows increasingly complex and if we are to understand its structure and attempt to cope with its problems we must equip ourselves for the study by acquiring some knowledge of general principles. The study of economic principles must not be regarded as an end in itself, but merely as an essential preliminary to a study of business institutions as they actually exist. The aim of these lessons will be to show the application of principles to practice by dealing in broad outline with modern industry and commerce, paying special attention to current developments and tendencies. We shall also be introduced to the principal terms and documents of business practice.

Economics is the science which studies society from the side of the industrial and commercial dealings of its members. For convenience of study it is usually divided into the production, exchange, distribution and consumption of wealth and the aim of the economic system is the satisfaction of human needs (e.g. food, clothing, shelter, education) by the production of wealth. By "production" we mean the creation of utilities, not of material things. Any person who creates utility, whether it be of form, place or time, is a producer in the economic sense.

Classification of Producers

The satisfaction of human wants involves the labours of a vast army of producers all of whom are engaged in some particular occupation or other. With the increase of specialization these occupations have become so numerous that it was necessary for the Ministry of Labour to compile a *Dictionary of Occupations* which contains the names and meanings of thousands of callings. The whole of these callings may be grouped into four main branches of production, as shown in Fig. 1.

EXTRACTION is the production of raw materials and foodstuffs by the cultivation of the soil, the rearing of animals and the raising of minerals, such as is carried on in agriculture, afforestation and mining. These occupations derive their products directly from the natural environment and appropriate them for the use of mankind.

Agriculture is a good example of an extractive industry. The agricultural industry includes all those undertakings which, by the cultivation of the soil, are engaged in the production of raw materials and foodstuffs of animal and vegetable origin, or of raw materials for manufacture. The industry covers such diverse branches as the cultivation of cereals and other crops, the growing of fruit and vegetables, the growth of timber, stock-raising and

BASIC COMMERCIAL KNOWLEDGE

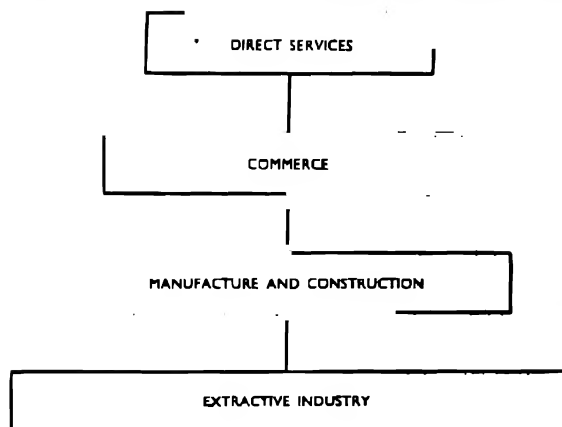


Fig. 1. *Diagram showing the four main branches of productive vocations in which the population is engaged*

dairy farming. From a world standpoint, agriculture is the most important of man's occupations and even in Great Britain it finds employment for considerably more than a million people. The industry is held to be of supreme importance for the following reasons — Greater stability of employment than in other industries, it provides a market for home manufactures

The unit of agriculture is the farm, which consists of an area of

land, a proportion of which is under grass, the remainder arable, containing certain farm buildings for livestock the farmer's house and possibly the cottages of some of the workers. The mere area is no measure of the relative importance of two farms. This may vary with the situation in respect of markets, the fertility of the soil, the intensity of the cultivation.

The principal advantages enjoyed by the large farm are identical with those possessed by large-scale production in any other industry. Those in favour of large farms argue (a) that there is more opportunity for the use of capital in agriculture (b) that the social position of the farmer is improved (c) that there is greater economy in buying and selling (d) better use of skill and machinery. The advocates of small farms state (a) that the land is cultivated more carefully and more thoroughly (b) that the lack of capital can be compensated for by means of the joint ownership or hiring of machinery.

On the other hand, large farms possess certain disadvantages which are not shared by large-scale units of production in manufacture. The distance of many of the operations from the centre of the farm may not only entail much loss of time in going to and from work, but also render impossible close supervision of the workmen by the farmer. Rapid shifts from one job to another in response to weather vagaries are difficult when labour is widely scattered.

The agricultural problems of to-day are numerous but three of them are outstanding, namely the problem of adequate credit facilities, the question of co-operative marketing of agricultural produce, the small holding question and the maintenance of an adequate rural population.

MANUFACTURE AND CONSTRUCTION includes those occupations which are concerned with the working up of raw or partly finished materials into articles of greater value, or in putting together already existing parts. This group, which is the largest of all, employs about 35 per cent of the workers

of Great Britain. The following types of manufacture may be recognized :

1. Transforming industries, which subject raw materials to a process of physical modification ; e.g., wood working, flour milling and cotton spinning.
2. Chemical industries, which employ chemical processes to alter the physical form of raw materials ; e.g., paper making and metal smelting.
3. Constructive and assembling industries in which individual components are joined together to make one complete whole ; e.g., building, road making and engineering.

Engineering is the most modern of all the great manufacturing and constructive industries. It is engaged in providing the equipment for mechanical transport and for power-driven productive plants, together with apparatus for lighting, heating and drainage. It is an industry of great complexity, using the products of other industries and supplying the needs of almost all industries. Changes and development are going on all the time ; new branches of the industry are developing while other branches are declining.

Generally speaking, the engineering industry may be regarded as concerned with the production of finished articles from the products of the iron and steel and other metal industries. Its boundaries, however, cannot be closely defined, as the iron and steel industry itself must be regarded as in part engaged in the heavier sections of engineering as, for example, structural steel work, rail manufacture, and the production of castings. The industry may be said to fall into three main divisions :

1. Heavy products—steam locomotives and machinery.
2. Standardized products—motor cars and cycles.
3. Electrical machinery.

The engineering industry is represented in all parts of the country, but concentrations appear in Lancashire, the West Riding of Yorkshire, the North-east coast, the Midlands of England, London and South Wales and Central Scotland. The raw materials, though bulky, are not usually relatively heavy, and consequently are not a determining factor in localization. Coal, however, is a vital consideration, and in the main the industry is localized on the coalfields. There is a certain amount of localization of specific sections, thus : textile machinery in Lancashire and West Riding ; cycles and motors in the Midlands ; cutlery and small tools in Sheffield.

The heavier branches are mainly grouped round the steel producing districts, and the makers of agricultural machinery are found chiefly in country districts.

The forms of activity embraced in the engineering industry are so diverse, however, that generalization is almost impossible. The size of the business unit is dependent on the character of the product, and the type of organization that is to be established for producing and marketing it. Thus, certain commodities such as motor cars may be manufactured on mass production lines, and, provided the market is sufficiently wide to absorb the output, the unit may be expanded to very large dimensions. Even in this case, questions of internal transport and the risk of congestion of incoming raw materials and outgoing products will eventually determine the limits of size.

Where the products are of a general character and very many types are

C.S.E.—L*

made within the same organization, as is the case of the various commodities that comprise general electrical engineering, the bulk of which cannot readily be made on mass production lines, the limiting size of the unit is likely to be reached much more quickly than in the case of mass production. In such lines of manufacture the tendency is increasingly towards the decentralization of manufacturing organizations.

COMMERCE has for its object the exchange of goods between those engaged in the various stages of production. It includes trade, banking and finance, transport and insurance and warehousing, and embraces all those processes which are engaged in the removal of hindrances to exchange.

DIRECT SERVICES aim at increasing the efficiency and saving the time of those workers employed in the output of material commodities. They afford employment to about 26 per cent of the population and include teachers, professional workers, civil servants, local government officials and public servants.

EXERCISES FOR PRACTICE

These exercises are based on the information given in the above lesson.

1. What do you mean by production? Into what four great divisions may the various productive activities of man be grouped? Is it true to say that shopkeepers, carriers and clerks are unproductive? If not, in what sense do they produce wealth?
2. Contrast agriculture as an extractive occupation with any constructive occupation such as engineering.
3. Write down at random a list of occupations found in your locality and then classify them.
4. What in your opinion are the main factors which have led to the economic development of British commerce and industry?

LESSON TWO

COMMERCE AS A BRANCH OF PRODUCTION

THE actual physical production of goods is but one stage in the process of production. All production is undertaken with a view to the satisfaction of a human want and, in a primitive state of society, the process is relatively simple since the producer himself consumes what he produces. At a more advanced stage he exchanges a part or the whole of his product for things of which he has greater need. A new element—exchange—thus enters the process.

The keynote of progress lies in the specialization and differentiation of processes. In an advanced state of society, the industrial worker no longer produces a complete article by his own efforts. He concentrates on one process only and co-operates with others so that the finished product is the outcome of their combined endeavour. The "exchange function" now devolves upon a separate section of the community and is itself divided up into a number of specialized branches (Fig. 2).

It is frequently said that commercial functions are not productive

because they consist of intangible services. In order to refute this contention it is necessary to remember that in no case does man create anything—he merely re-arranges matter which already exists. The miner frees iron ore from the earth and renders it available for use. The iron worker changes its chemical composition and physical properties in the blast furnace and the steel works. The engineer alters the shape of the metal by submitting it to a machining process, and so on. The whole series of operations constitutes a process of modification. If this is the case there can be no essential difference between those who make the changes in the material and those who move it from a place where it is not wanted to one where it is required at the right time. Commerce may therefore fairly be described as productive.

Branches of Commercial Activity

The present day tendency towards an ever increasing specialization in the processes of production has brought into prominence several hindrances to exchange. In the first place there is the *personal* element : when the goods have been made it is necessary to find someone who is willing to take them at the price at which they are offered. Secondly, there is the element of *place*. Cotton goods made in Lancashire are wanted in India and it becomes necessary to devise a means whereby they can be rendered available without loss of

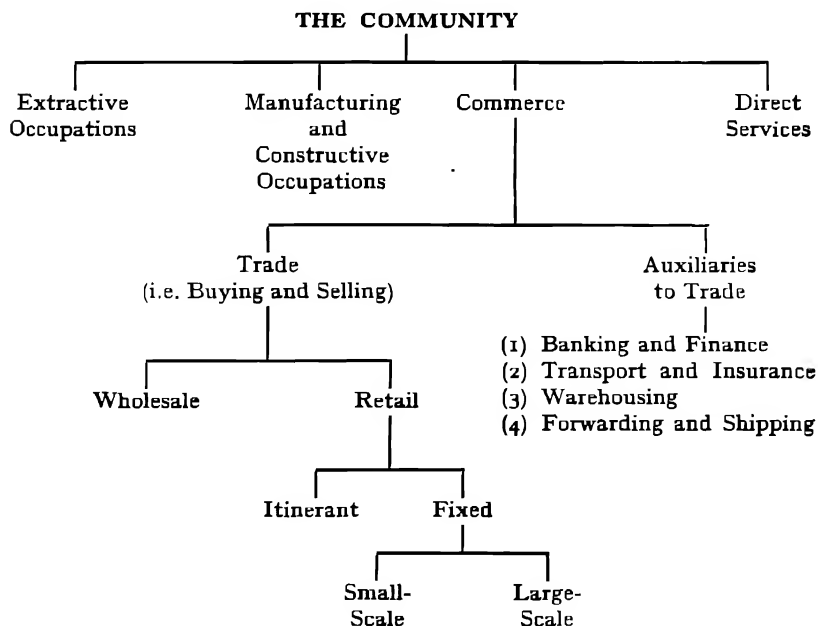


Fig. 2. Chart showing the various specialized branches of commercial activity, indicating the problems which are involved in dealing with distribution of goods.

time and in good condition. Then there is the question of *time*. Goods have to be placed on the market at the time when they are needed and not before. Thus, agricultural produce may be available in large quantities at harvest time, but it is useless to attempt to place it on the market all at once if the demand does not exist. Finally, there is the question of *finance* which arises when commodities have to be moved in large quantities from producer to consumer situated far apart. There must be institutions in existence which will facilitate the settlement of accounts.

In order to meet these different requirements, the following specialized branches of commercial activity have come into existence:

Trade. This consists in the exchange of goods between different members of the community. The significant and characteristic problem in this field is the direction of a product to the most advantageous market. Trade acts as a link between producer and consumer and involves a knowledge of productive conditions and consumers' needs.

Banking and Finance. Owing to the hindrances of time and place in the exchange of goods, there is a period of waiting from the time the goods are made until the consumer pays for them. It is the function of banking and financial institutions to undertake this waiting instead of the primary producer or the manufacturer.

Transport and Insurance. This is one of the most important functions in the process of exchange. If we trace the history of any commodity through the various stages of its production, we shall find that transport is constantly involved. It has made available for our use a great variety of goods which can be drawn from all parts of the world. The movement of commodities in this way is accompanied by risk of damage and this risk is undertaken by a specialized institution—the insurance company or underwriter.

Warehousing. This consists in putting commodities in a place of safe keeping until such time as the market or the consumer can use them. Storage has always been recognized as a fundamental economic service in the smoothing out of supplies, the object being to adjust supplies to the buyers' needs so that price levels are kept steady and even. As the service of transport equalizes supply and demand from the standpoint of place, storage equalizes them from the standpoint of time.

Classification of Trade

Trade is commonly classed under two headings. We speak of the *home trade* when we refer to those trading operations which are confined to a single country. Foreign trade includes all those trading operations which are conducted between one country and another. In general, this type of trade may be said to be concerned with the movement of raw materials, foodstuffs and manufactured goods on a large scale. Foreign trade is of vital importance to Great Britain, for no other country depends for its existence to such an extent on overseas trade. France might conceivably live on what her own land produces; the United States of America, with her varied climate and her wealth of natural resources, could, if her people so desired, shut herself off from the rest of the world and exist comfortably, if not luxuriously. But to the people of Great Britain, such a course of action would be unthinkable,

since the whole of her industries, whether making for the home or the overseas market, are alike dependent on the maintenance of her foreign trade. *a*

Wholesale and Retail Trade

If we examine the structure of the home trade, we find that it is in the hands of a large number of business undertakings of a wide variety of sizes. Broadly speaking, these undertakings may be classed under one of two headings: they may be engaged either in the wholesale trade or in the retail trade. The first of these is concerned solely with the distribution of large quantities of goods received directly from manufacturers or other producers. The retail trade, on the other hand, is concerned with the distribution of goods in small quantities to consumers. No hard and fast line can be drawn between these two branches of the home trade, since in many instances, firms which act as wholesalers have also retail establishments. Again, retailers who conduct their business on a large scale and who own a considerable number of shops may purchase their stocks in large quantities at wholesale prices direct from the manufacturer.

The term "retail trade" needs now to be examined in greater detail.

TYPES OF RETAIL TRADE. An exceedingly wide range of business activities is covered by the term "retail trade." In its simplest form it includes such itinerant dealers as hawkers, pedlars and cheap jacks. In its more complex forms, it covers the ordinary shopkeeper who owns but one establishment, bazaars, multiple shops, and departmental stores. In addition to these we may also mention the retail co-operative societies, which are distinguished by the fact that they are not subject to private ownership but are owned by consumers.

The terms "large scale" and "small scale" imply more than mere size. Growth in business, to use a metaphor, takes place in more than one dimension. A large scale business is something different in its own way from a small retail shop. There is not only the difference in size, there is a difference in organization, in technique, in individuality, and in personality.

Individual businesses are not mere units; they are personalities. We shall proceed to examine the organization of a small retail shop and then pass on to the consideration of large scale retail trade.

ORGANIZATION OF A SMALL RETAIL SHOP. The work of a retail shop lies in the purchase and the sale of goods so as to yield a profit to the business. In order to achieve this object, a place must be provided where goods can be displayed for the inspection of the public prior to sale; provision must also be made for the storage of reserve supplies of goods and finally the records of the business must be kept. Hence most retail businesses may be separated into three divisions—the shop, the stock-room and the office. The smaller the concern, the more will the last two tend to disappear. The diagram (Fig. 3) illustrates the typical organization of a retail business.

The Shop. The shop is primarily concerned with the sale of goods to customers. There is generally a chief salesman, who is aided by a staff of shop assistants, whose duty it is to attend to the needs of customers. Members of the staff may be engaged in requisitioning goods from the stock-room, checking them, and distributing them among the various departments of the shop.

The Office. In the typical small retail business, the office does not assume

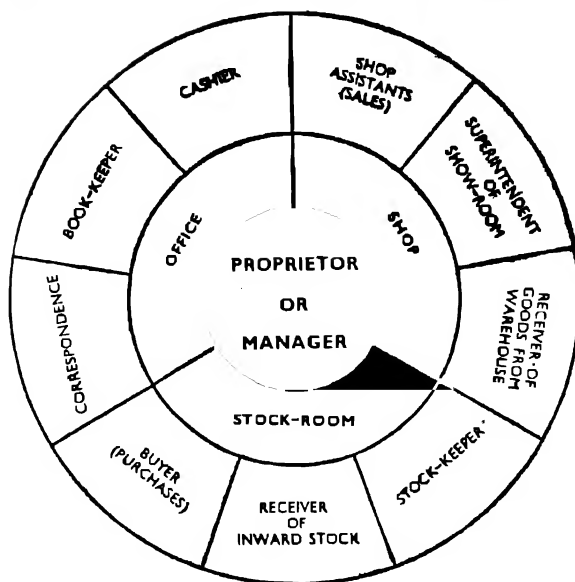


Fig. 3. *Typical organization of a retail business.*

any great dimensions, and very frequently the greater part of the work is done by the proprietor himself. The diagram illustrates the three functions performed by the book-keeper, the cashier, and the clerk in charge of the correspondence. Two or more of these functions may be performed by one person.

The Stock-room. This is generally in charge of an overseer, who is engaged in the careful arrangement and classification of stock, so that any article may be found immediately it is required. There may also be a person

checking the arrival of goods before passing them into stock, while another may be engaged in the packing of goods before they leave the stock-room.

This is a bird's-eye view of the organization of a small retail shop. When we proceed to study the more complex organization of a large scale retail business, we shall still find that the three important functions of buying, stock-keeping and selling are retained; the size of the business, the ideas and methods under which it is run, the aims of those running it, determine the precise ways and means by which these functions are carried out.

As the organization gets bigger and more complex, handling several classes of goods instead of one commodity, it still remains a retail business, but it is known as a large scale retail business. Dealing with this bigger unit, we find that its organization is delegated to different persons and that its management may pass entirely out of the hands of the owner, who may himself merely exercise a general supervision.

EXERCISES FOR PRACTICE

These exercises are based on the information given in the above lesson.

1. Illustrate by means of a diagram the place of commerce in the scheme of industrial occupations, and show how you would further classify the various commercial activities.
2. What do you understand by commerce? Name *three* different types of commercial activity and show the importance of *one* of these types in the business of satisfying the consumer's demand for commodities.

3. What are the main types of retail undertaking? Write a brief account of the typical organization and business scope of *one* of these types.
4. Into what main divisions may a typical retail undertaking be divided? State the desirable features of each division.

LESSON THREE

LARGE-SCALE RETAIL TRADE

1. Departmental Stores

THE departmental store may be defined as a retail establishment handling several classes of goods, each class being separated from the others as regards management and location. These concerns are usually located in a central position in the recognized shopping centres of the great cities. The precise range of goods handled in each case varies considerably, and the most progressive departmental stores are continually extending the scope of their activities.

The aspect of service is one which receives special emphasis from the departmental stores. Many of them are prepared to sell goods to approved customers on credit. Goods may be ordered over the telephone, and an extensive delivery service is maintained for sending goods to the homes of customers free of charge. Many of the stores have established special service departments for the convenience of their patrons, including writing rooms, restaurants, information bureaux, and other attractions.

ORGANIZATION OF THE DEPARTMENTAL STORE. The departmental store is usually constituted as a limited company and, in respect of its legal constitution, presents little difference from other types of large scale enterprise. It may be divided into the following departments:

The Technical Department. This section of the organization is, in the first place, concerned with the reception and examination of goods. On arrival, these are checked, marked and taken into stock. It is also necessary for this department to supervise the storage of goods, to watch the reserve stocks and notify the buyers when any particular line shows signs of running out of stock. It is also responsible for the delivery of goods to customers and, in the case of dispute, for the investigation and settlement of claims.

Merchandise Department. This section of the business is the most important of all, for it carries out the work for which the store exists. The life blood of the departmental store flows through the buying and selling departments; "merchandising" is the first essential and "service" the second. By merchandising we mean the purchasing, on the most favourable terms and in the correct proportion, of those lines which the public demands. At the head of each section of the business is the *buyer*, who is both the buying and selling head for the particular division.

Sales Department. In this division of the business ample scope is afforded to the staff for the exercise of the quality of constructive imagination. This department supervises all the forms of advertising which the store employs—press advertising, window displays, counter displays, bargain sales, etc.

Staff Manager. The selection, training and control of the staff of a large departmental store is a matter which must receive the serious attention of the

management. This usually devolves upon one person—the staff manager—who may be helped in his work by a number of assistants. This official is also entrusted with the various activities falling under the title of “welfare work.”

Management of Buildings. Under this section fall all the matters connected with the maintenance and upkeep of the business premises.

Finance Department. The office or counting house is the brain centre of the business in which converges the whole nervous system of the business organism. It deals with the incoming and outgoing correspondence, prepares the accounting and statistical records of the business, and exercises financial control over the selling department.

Advantages of Departmental Stores. The rapid growth of the departmental store has led many people to prophesy the ultimate downfall of the small shop-keeper. Although the volume of business handled by the departmental stores has assumed huge proportions, as compared with the total retail trade of the country it is but a small percentage of the whole, and the small retailer finds scope for his activities in every centre of population.

The departmental store possesses the following advantages :

1. It reaps the benefits which accrue to most large-scale enterprises, the most outstanding being its ability to purchase cheaply.
2. It can secure the services of experts to conduct its buying operations.
3. It is located in the main shopping centres and can satisfy a wide range of requirements under one roof.
4. Its financial resources enable it to spend large sums on press advertising.
5. It can give greater service than most other types of retail business.

Disadvantages of Departmental Stores. The departmental store is confronted by many problems, the chief of which are :

1. On account of the expensive services rendered, the cost of doing business is high.
2. The central position enables it to secure the shopping trade but the sales of articles of everyday use go to smaller concerns situated nearer to the consumer.
3. The customer does not receive the same personal attention as he does from the small retailer.

II. Multiple Shops

The multiple shop is a term applied to a large scale retail undertaking which, within the same town or in the same country, has a number of branches. This kind of trade is included under the heading of the retail trade because the owner sells direct to the consumer, although he buys on a large scale like the wholesaler.

The multiple shop selling organizations in Great Britain may be classified into three main types :

1. Those serving a certain region such as Lancashire or South Wales. These will usually be found to be offshoots of one successful and flourishing central store. The proprietor of a successful business may employ his capital to found new branches and as the number of such branches increases, the organization may gradually develop into a multiple shop system. This type is found in the grocery and provision trade and the boot and shoe trade.

2. The more highly developed systems which cover the whole country and which operate from one or more centralized depots. For example, Boots, the Cash Chemists, whose central depot is in Nottingham. They also possess distributing centres in London and Manchester.

3. The system in which the various branches exercise almost plenary power in buying and selling as, for example, in the case of Woolworth's Stores, where the manager purchases most of the goods through the head office, but buys requisites for the café and flowers and plants locally.

These shops deal in a great variety of merchandise, although the commodities handled by any one system are usually limited in range.

ADVANTAGES AND DISADVANTAGES OF MULTIPLE SHOPS. Among the advantages which may be claimed for the multiple shop system are the following :

(a) The economies of large scale buying ; (b) speedy turnover ; (c) relatively low cost of doing business ; (d) low prices.

The disadvantages include the following : (a) Absence of personal service ; (b) difficulties of management.

These drawbacks have been overcome to some extent by giving the manager an interest in the success of the business. The manager, in addition to his salary, may be paid a certain percentage depending either on the sales or on the profits of his branch.

III. Co-operative Distribution

A co-operative distributive society is a combination of persons whose aim is to economize by buying in common and to increase their profits by selling in common.

The distinctive features of the movement are the following :

1. The capital has to be provided by the members, and has to bear a fixed rate of interest.

2. Fresh provisions only are to be sold, and full weight and measure given.

3. Market prices are charged, and no credit is to be given or asked.

4. Profits are to be divided among the members in proportion to their purchases.

5. The government of the society is democratic, based on one vote each for man or woman.

6. The management is in the hands of permanent officials, assisted by a committee which is elected periodically.

7. A definite percentage of profits is devoted to education.

8. No inquiries are to be made as to the politics, religion, sect or opinion of any of the members.

The movement is of considerable importance in modern society. The various retail societies are distributed throughout the country on a geographical basis, but are localized principally in the great industrial areas. It is estimated that about three-sevenths of the families in this country purchase a part of their supplies through the societies.

ORGANIZATION OF THE SOCIETY. The unit is the local retail co-operative society whose members are not only the customers, but also the owners of the retail shop or shops. Each member must be a shareholder, with a right to vote in the selection of a committee of management. He

need not, however, pay for his share at once provided he pays an entry fee of 1s. or 2s. 6d. and a weekly payment thereafter.

The control, management, and administration of a society are vested in the members, the committee, and the officials of the society. The duty of the committee is that of formulating the general policy of the society, whilst that of the members is to influence this policy by exercising their right of criticism of the published accounts and the reports of the committee. The functions of the committee may be summarized thus :

1. It is responsible for the appointment of the managerial staff of the society, and for fixing its duties and remuneration.
2. It must see to the provision of premises and other equipment for carrying out the business of the society.
3. It must keep a strict control over the finances of the society, and must control all investments made with the funds of the organization.
4. It is responsible for the supervision of the working of the business, and for seeing that the trading operations are conducted on economic lines.
5. It must control the sources of supply of merchandise, and maintain a close contact with other co-operative organizations.

THE WHOLESALE SOCIETIES. In 1862, the various societies combined to form the Co-operative Wholesale Society, the chief functions of which are :

1. To effect economies in buying large quantities.
2. To act as a producer of both agricultural and manufactured products.
3. To act as a banking and insurance department for itself and the various societies.

The structure of the co-operative movement and the part played by the Co-operative Wholesale Society are shown by the illustration on page 339. Members of local societies obtain goods from their own shops. In turn the local societies obtain a large part of their supplies from the Co-operative Wholesale Society, which has factories to make them and salesrooms to facilitate their disposal to the homes of the people. The people are directly in touch with the C.W.S. Bank and the Insurance Society.

ADVANTAGES OF CO-OPERATION. (a) The economies of large scale retailing such as are enjoyed by multiple shops ; (b) a regular and guaranteed market for their goods ; (c) saving on advertising (though this may be offset by cost of propaganda).

DISADVANTAGES OF CO-OPERATION. (a) Growth of the movement weakens the control of the individual member ; (b) failure to attract the best organizing ability ; (c) difficulties with regard to dividend policy (for example, is the society to aim at securing market prices in order to distribute a big dividend, or low prices and cheap goods to consumers with a low dividend ?) ; (d) the co-operative undertaking is an employer of labour like the capitalistic concern and has similar disputes with its employees.

IV. State and Municipal Undertakings

The State or municipality carries on various industrial enterprises, either as a monopoly or in competition with private firms and companies. Examples of state trading are the Post Office, the Royal Mint and the Stationery Office ; of municipal trading, gas, water and electricity works, tramways and markets.

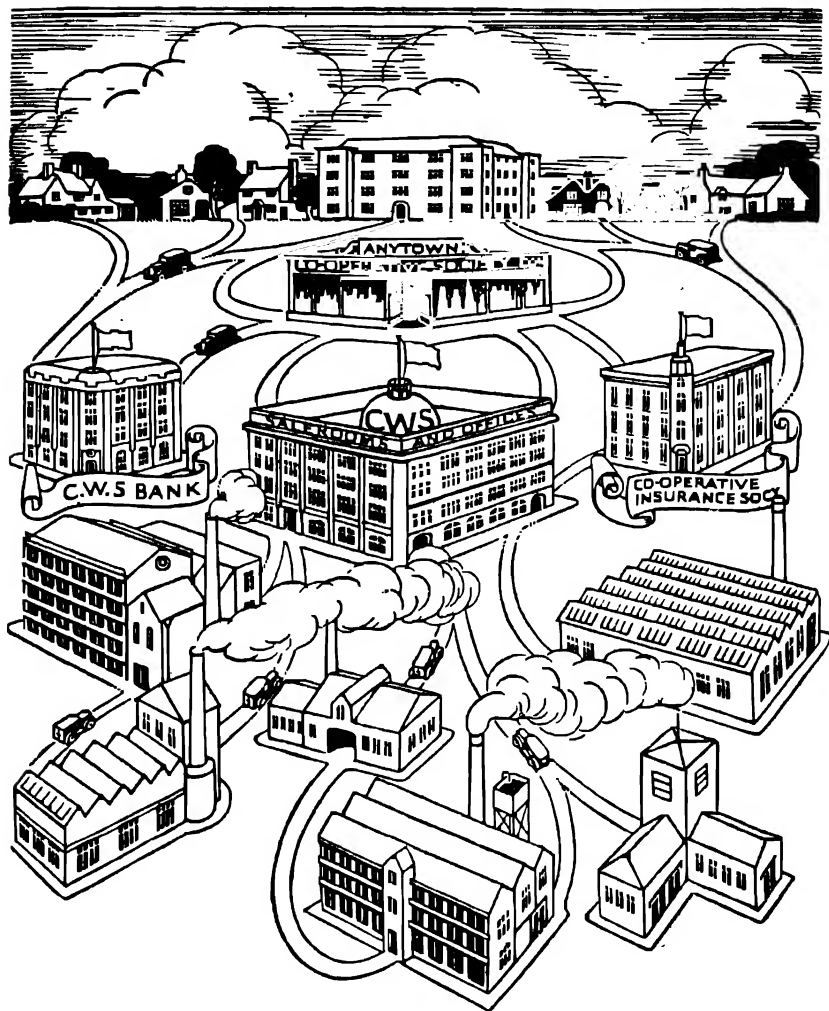


Fig. 4. *The structure of the co-operative movement. Goods made in the factories reach the retail shop and the people through the C.W.S. warehouses, and the financial side is dealt with by the C.W.S. Bank and the Insurance Society.*

The advocates of such undertakings argue :

1. That many of our needs cannot be supplied by private enterprise, and must be undertaken by the municipality, e.g. street cleaning and water supply.
2. If there is an element of monopoly, the municipality is preferable,

e.g. the first set of gas pipes practically excludes any form of competition.

3. There is more opportunity for unity of organization and control, e.g. through tram routes.

The opponents of state and municipal trading assert that :

1. It is an undue interference with private enterprise.

2. It leads to unnecessary extension, since there is no fear of loss because public money is being used, e.g. a new tram line which could not pay expenses might be opened by a municipal authority.

3. Official management is apt to be bad and unbusinesslike.

Within recent years the tendency has been for the State, having established unified control in the public interest, to transfer responsibility for the exercise of that control to a public corporation. Thus the constitution of the B.B.C. represents this new type of organization of public utility service. Other examples in Great Britain are the Central Electricity Commission and the London Passenger Transport Board.

EXERCISES FOR PRACTICE

These exercises are based on the information given in the above lesson.

1. Compare and contrast the chief characteristics of the departmental store and multiple shop.
2. Describe the organization of any two of the following forms of business and show how in each the tendency is to eliminate the middleman :
 (a) the multiple shop ; (b) the co-operative distributive society ;
 (c) the departmental store.
3. What do you know of the co-operative movement ?
4. Submit three arguments in favour of state and municipal undertakings.

LESSON FOUR

LEGAL CONSTITUTION OF THE BUSINESS

EACH form of business undertaking has a separate legal status and constitution (Fig. 5). With non-trading undertakings we have no immediate concern, for though they may form a part of the general economic structure, their primary object is not the making of a profit but the rendering of a necessary service to the community.

Whatever their form, all business undertakings have one essential feature in common, and that is the expenditure of capital and labour for the purpose of making a profit. Profit, generally speaking, is the difference between the actual outgoings and the actual income of the business. This is the gross profit. Before the net profit for any period can be ascertained, certain deductions from the gross profit have to be made, varying according to the nature of the business. After such deductions, any surplus is shared out according to the form of the undertaking ; if a sole trading concern, to the trader himself ; if a partnership, among the partners ; if a company, as dividends among the shareholders.

The chief types of undertaking which assume the form of sole trading concerns are retail shopkeepers, and those engaged in rendering direct services

TYPES OF LEGAL CONSTITUTION

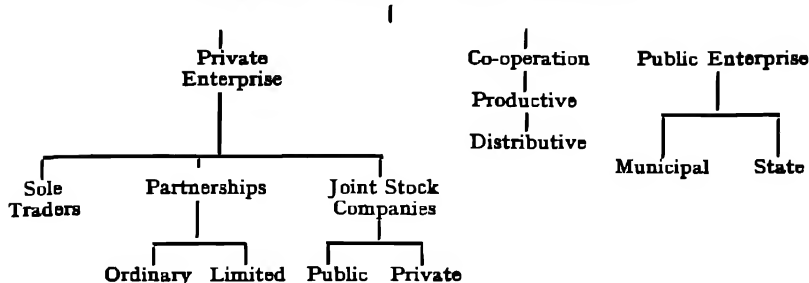


Fig. 5. The diagram above indicates types of legal constitution of which the three main types are private enterprise, co-operation and public enterprise.

to the community and where, accordingly, the personal skill and knowledge of the proprietor is the chief asset of the business. In these cases a simple form of organization and only a relatively small amount of capital are required, and personal supervision can be exercised successfully. As a rule, the activities of such an undertaking are confined to a particular locality and seldom extend beyond the limits of a given country. This is usually due to insufficiency of capital and the limitations of direct personal management.

RESTRICTIONS ON TRADE. Subject to such restrictions as are imposed by law on the sale and purchase of certain commodities, and on certain special classes of persons, anyone may carry on a business as a sole trader.

Most of the restrictions which exist on trading in commodities are common knowledge. For instance, no one may sell certain goods, e.g. armaments, poison, tobacco or alcoholic liquors without a licence; and only between certain hours may the last named commodities be sold publicly. There are strictly enforced limitations on the number of hours per day and per week which an employee in a shop may work, and as to the conditions of his or her labour.

CAPACITY TO TRADE. In addition to the restrictions on the manner of trade, certain classes of persons are under certain legal disabilities which make their status as traders different from that of the ordinary trader. Such persons include infants, convicts and persons of unsound mind.

BUSINESS NAMES. Before the outbreak of the First World War a person could carry on a business under almost any name, either his own or a fictitious one—provided the use of such name did not prejudice any rival undertaking of the same name. But by the Registration of Business Names Act, 1916, any individual carrying on a business under any name other than his true name must be registered and the registrar's certificate exhibited at the principal place of business of the individual and the true name of the proprietor must be disclosed on all trade communications.

PARTNERSHIP. Frequently a sole trader's business will expand to such an extent that it becomes necessary to obtain assistance by bringing in some other person who will contribute fresh capital or skill and energy, and

will identify himself with the fortunes of the business by sharing both in its profits and in its losses.

The essence of partnership as a business undertaking is that each partner is liable to the last penny of his private fortune for any debts incurred by the firm or by any member of the partnership acting for the firm in the ordinary course of the firm's business. This liability is based on the principle that each partner is the agent of the others for the purposes of the partnership business.

A full account of the legal position of a firm and of its members is to be found in the Partnership Act, 1890. Partnership is there defined as "the relation which subsists between persons carrying on a business in common with a view of profit."

Partnership Business

Before persons may be held liable as partners, it must be shown that they are carrying on a business in common with the view of profit. The word "business" is loosely defined in the Act as any "trade, occupation or profession." From this it will be gathered that where it can be shown that persons are carrying on a business in common and that their object is the making of a profit, a partnership is proved. In other words a written agreement is not necessary, as a rule, to create a partnership. A partnership may be created verbally or by inference from the conduct of the parties.

No partnership may consist of more than twenty persons (or ten in the case of a banking business) for otherwise it is illegal. It will also be illegal if formed for an unlawful purpose, or for a purpose contrary to public policy, or it may become illegal by subsequent events, e.g. the outbreak of war, where a partnership had been formed for the purpose of trading with a country against whom hostilities are subsequently commenced.

Once the partnership has been constituted, each partner is the agent of the firm and of every other partner for the purpose of the partnership business.

It follows that *prima facie* each partner has full authority to do all acts necessary to carry on the business of the firm. This is termed his apparent authority and it is the authority he is presumed to possess. Any acts done by him within that authority will bind the firm, e.g. pledging or selling partnership goods, drawing cheques, accepting negotiable instruments, purchasing on the firm's account—but not executing a deed on behalf of the firm unless he is authorized by deed so to do.

No act of a partner, however, whether within his actual or apparent authority, will bind the firm unless the partner acts in the transaction in the capacity of a partner, and not as a private individual, and the particular transaction is one within the scope of the partnership business.

Partnership Agreement

Where a partnership has been constituted by a written agreement, the agreement usually provides for the following matters:

Name of the Firm. The firm name stands in all transactions for the names of the individual partners, which must be fully disclosed on the firm's letter paper, circulars, etc. • The firm name may be anything, provided (a) the last word is not "Limited"; (b) it is not identical with that of some other rival

concern; and (c) complies with the requirements of the Registration of Business Names Act, 1916.

Nature of the Business. It is important that this should be clearly stated, as only for the purposes of the partnership business are the individual partners the agents of the firm. Any substantial alteration in the nature or conduct of the business must be agreed to by all the partners.

Duration of the Partnership. Unless otherwise agreed a partnership is terminable at will by any of the partners. Where the partnership is for a term of years or for a definite object, it is terminated by the expiration of that period, or the completion of the particular purpose. If continued thereafter it becomes a partnership at will. Since death or bankruptcy of any of the partners will dissolve the partnership, provision should be made for these contingencies.

Partnership Capital and Property. The proportion of capital subscribed by the partners respectively should be stated. No interest will be payable on such capital except by agreement. Provision should therefore be made that such interest is paid before profits are computed. Subject to any agreement, whatever the ratio in which the capital was originally subscribed, partners are entitled to share equally in the capital and profits of the business and must contribute equally to any losses, whether of capital or otherwise, sustained by the firm.

The partnership property will consist of all property originally brought into the partnership or subsequently acquired by the firm, or for the purposes of the partnership business. Such property must be held and applied exclusively for the purposes of the partnership.

Division of Profits. Unless it is intended that partners shall share equally in the profits of the business, the partnership agreement should provide specifically for the ratio of division and the manner of ascertainment.

Here it should be noted that a partner who takes no active part in the management of the business, and receives annually a fixed sum out of the profits, whatever they may be, is no less a partner, and liable as such, than the active members of the partnership.

Management of the Business. In the absence of agreement each partner is entitled to share in the management of the business and must devote his whole time and energy thereto, but is entitled to no remuneration for his services. Partnership agreements therefore should provide for the details of management, salaries to be paid, and any privileges or restrictions conferred or imposed in modification of the statutory rights and liabilities under this head.

A clause for the taking of accounts either yearly or half-yearly should also be included.

Most partnership agreements are framed so as to allow the partners to draw out sums on account of profits to meet their current private expenses, as otherwise profits will only be payable after the accounts are completed.

Death, Retirement or Bankruptcy of a Partner. Unless some provision is made in the partnership agreement, the happening of any one of these events will bring the partnership to an end. It is essential, therefore, to arrange that the firm should nevertheless continue in existence, and the surviving partners carry on the business, paying out the deceased partner's share, for instance, to

his widow, either by way of annuity, or, alternatively, in a lump sum.

Arbitration. A partnership agreement usually concludes with an arbitration clause to the effect that in the event of differences of opinion arising they should be submitted to an independent arbitrator.

Limited Partnerships

A limited partnership is a partnership consisting of one or more general partners and one or more limited partners. A limited partner is a partner who subscribes a fixed amount of capital to the firm, and his liability for the debts and obligations of the firm is limited to that amount, provided he takes no active part in the management of the business. If he does so he becomes liable as an ordinary partner, for all debts and obligations of the firm.

Every limited partnership must be registered with the registrar of joint stock companies otherwise it is not a limited partnership. Subject to any agreement between the parties, a limited partner is not entitled to dissolve the partnership by notice; neither will his bankruptcy or death effect a dissolution of the firm. He cannot assign his share in the firm without the consent of the general partners, while he need not be consulted as to the admission of a new partner.

Company Formation

A frequently used method by which an existing business is consolidated and developed, or a new enterprise undertaken, is by the formation of a joint stock company, which may be either a private or a public concern. The legal constitution of these companies is now governed by the Companies Act, 1929.

A company is not merely the aggregate of the members of which it is composed, but is a distinct and separate legal entity consisting of a number of persons united by a common specific purpose. Before a company can come into existence as a legal entity it must be incorporated, and this is usually done by registration with the registrar of joint stock companies. In the case of limited liability companies there is a clause in their constitution expressly limiting the liability of the members composing it to the par value of the shares they have taken in the company.

If the public at large is invited to purchase shares then the company is a public company. But it may be that the terms of the company's constitution, in its memorandum of association, prohibit the offer of shares to the public and restrict the rights of transference of its shares. It is then a private company, in which case the number of members must not exceed fifty. A private company moreover may consist of only two members, while there must be not less than seven shareholders in each public company.

Where there is no clause limiting the liability of the members of a company, such members are jointly and severally liable, without any limit, for the company's debts.

Certain companies are incorporated in ways other than registration. These are, for instance, statutory companies, formed and governed by Act of Parliament direct, e.g. the Southern Railway Company and the Port of London Authority; and chartered companies, formed and governed by Royal Charter, e.g. the Royal Mail Steam Packet Company.

Building societies, Friendly societies, etc., are not companies proper, but are governed by Acts of Parliament by which they are created. The liability of their members is limited.

There is a further form of limited liability company where the members, though not fully liable as in the case of unlimited liability companies, undertake to provide a certain sum in the event of the winding up of the company. These are known as companies limited by guarantee. Their capital is rarely divided into shares.

EXERCISES FOR PRACTICE

These exercises are based on the information given in the above lesson.

1. Trading enterprise may assume different forms. What are the special characteristics of a partnership business compared with those of a public joint stock company?
2. A successful retail shop wishes to expand, and is considering obtaining the necessary capital by conversion into (a) a partnership; (b) a private limited company; (c) a public limited company. Advise the owner as to the advantages and disadvantages of these legal forms.
3. What are the chief points to be borne in mind in drawing up a partnership agreement?
4. The private joint stock company and the limited partnership were two forms of business organization created in the year 1907. Since that time the former has tended to supersede the latter as a form of business enterprise. Give reasons for the greater popularity of the private company, stressing advantages which this form of organization has over the limited partnership from the point of view of the business man.

LESSON FIVE

THE JOINT STOCK COMPANY

THE formation of a joint stock company (Fig. 6) is effected by the preparation of a memorandum of association and usually, but not essentially, by the preparation of what are called articles of association. The memorandum is the document which defines the status and objects of a company so far as concerns the outside world and the articles of association define the management and internal affairs of a company.

Memorandum of Association

There are five points which have to be determined: (a) The name, which must include the word "limited"; (b) the situation of the registered office, which fixes the domicile of the company; (c) the objects and powers of a company, which is the most important matter; (d) how the liability of the members is limited; (e) the amount of the capital of the company.

These are the five main points which are embodied in the memorandum of association which constitutes the charter of a company. This memorandum cannot be altered by the members of the company even if they are all present at a meeting convened for that purpose and all agree. It can only be altered

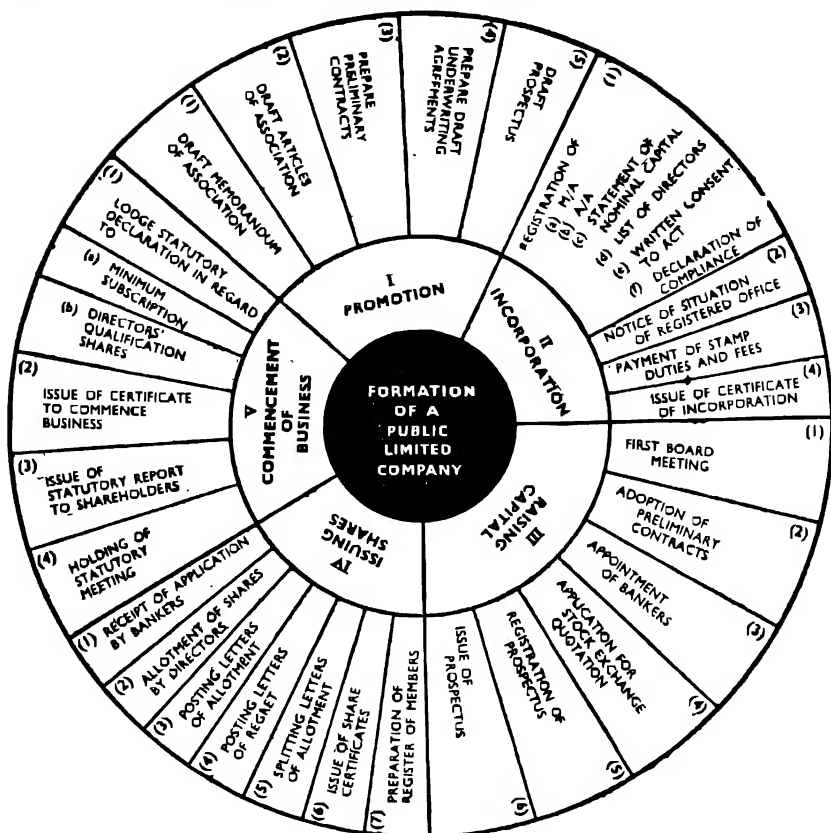


Fig. 6. Chart showing in detail the procedure for forming a public limited company. Each main head is split up into the various steps to be taken.

by an Act of Parliament or by petition to the court, which will only be granted on good cause being shown.

The Name. The last word of the name must be "Limited." The words Royal, Imperial, Co-operative and similar expressions cannot be used without authority and the name must not resemble that of any other existing company or firm. With reference to the word "Limited," it is necessary for a company to put up its name, including the word "Limited," outside its office or place of business, and it must put that name on all cheques and notices, advertisements, bills and other documents issued by the company, because it is the only way in which a company gives notice to the world at large that the liability of the members is limited. If the word "Limited" is omitted and a contract made, a cheque drawn or a bill negotiated without the word being inserted, then the directors who sign it are personally liable because they would be acting for a company not legally in existence.

There is only one exception to the rule that the word " Limited " must always be used, and that is where a company is formed for such purposes as the promotion of art, science, or recreation, and is registered without the word " Limited " (e.g. the Cyclist Touring Club).

It is often necessary to change the name of a company. This can be done only by passing a *special resolution* and obtaining the consent of the Board of Trade, which is usually granted as a matter of course. But if the former name conflicts with that of another company, it can be changed by consent of the registrar of companies.

The Registered Office. It should be stated whether the registered office is in England, Scotland or Ireland. This establishes the domicile of the company, which cannot be changed. The registered office is important because it is the place where writs and other formal documents are served upon the company.

Objects of the Company. The memorandum of association gives the objects of the company, which are stated in clause three, as shown in the specimen on pages 348 and 349. They consist of the main objects and the ancillary objects. The former may be to acquire the business of John Jones and Company and to carry on the same; also to enter into an agreement with reference to the formation of a company. Then come the ancillary objects, which may authorize the company to enter into leases, to buy land, and so on.

In the construction of the memorandum it is the main object to which the court looks, and all the others are construed as ancillary provisions.

Nothing can be done outside the objects as defined by the memorandum. The powers of the company are stated in the memorandum and anything beyond these are *ultra vires* (beyond the power of). Persons making such arrangements are rendered personally liable. The memorandum aims at protecting the public as well as the shareholders. In the construction of the memorandum everything incidental to the main object is deemed to be included. A trading company, for example, is deemed to have power to borrow money. Anything which is not incidental to the main business object of the company would be ruled out. For instance, a company once had powers to run tramways and then it tried to run omnibuses to feed the tramways, but this was *ultra vires* because it was not a necessary part of the objects for which the company was started.

The objects of the company must not be *illegal*. A memorandum of association can only be altered by the court where the order is made on petition and only for very strong reasons; for example, to carry on the business more economically, or to enlarge the local operations of the business. These are matters for which the court would allow the memorandum to be amended. On the other hand, the Cyclist Touring Club was formed to protect cyclists against motorists and they tried to alter their memorandum so as to include the protection of the latter among their objects. The court, however, refused to accept this because it was going outside the main object for which the company was formed.

Limitation of Liability. This is dealt with in clause four and signifies that no member can be called upon to contribute more than the nominal amount of his holding. If the shares are fully paid he is liable for nothing more. But if the company carries on business for more than six months

The Companies Act 1929.

COMPANY LIMITED BY SHARES.

Memorandum of Association

The ^{OF} *Provision Supply*
Company.
LIMITED.

1. The name of the Company is "*The Provision Supply Company* **LIMITED.**"
 2. The registered office of the Company will be situate in England.
 3. The objects for which the Company is established are—
The carrying on of a wholesale and Retail Grocery and Provision business and any activity incidental thereto
-

Presented for filing by

William Jones.....

Accountant......

Fig. 7. *The above is a facsimile of a completed memorandum of association, which it is necessary to complete in the case of private and public limited companies.*

4. The liability of the members is limited.

5. The share capital of the Company is £20,000, divided into 20,000 shares of £1 each.

WE, the several persons whose names and addresses are subscribed, are desirous of being formed into a Company in pursuance of this Memorandum of Association, and we respectively agree to take the number of shares in the capital of the Company set opposite our respective names.

NAMES, ADDRESSES AND DESCRIPTIONS OF SUBSCRIBERS.	Number of Shares taken by each Subscriber.
Thomas Evans, 7, Westfield Avenue, Cardiff. (Retired)	Five Hundred
William Jones, 20 Chase Street, Swansea. (Accountant)	Five Hundred
Arthur Williams, Loxford Road, Newport. (Company Secretary)	Three Hundred
Samuel Smith, The Docks, Newton Exford. (Retired)	Six Hundred
Edwin Watkins, 5, Peel Close, Newport. (Grocer)	Five Hundred
David Lewis, 99 Lemley Gardens, Newport. (Grocer)	Four Hundred
Albert Johnson, The Willows, Martinsford (Retired).	Six Hundred

Dated this 14th day of May 194 .

Witness to the above Signatures—

Peter Randall, 8 Witting Road, Hagstone, Wiltshire
James Hackworth, 15, Smith Street, Lytton, Wiltshire.

The completed memorandum, together with the articles of association, should then be filed with the Registrar of Joint Stock Companies at Bush House, London.

after its number has been reduced below seven, then every member who knows is personally liable for the debts and obligations contracted during that period.

The Capital. Clause five deals with the amount and division of the capital. It may be divided, say, into so many preference shares and so many ordinary shares, and the rights of each kind with regard to dividend and winding up may be stated. The object of specifying the rights of various shares is to show that these rights cannot be altered, except by petition to the court. The shareholders can thus enjoy the benefit of the protection of the memorandum. Since the articles can be altered, it is most important that the rights attaching to the various shares should be mentioned in the memorandum.

The memorandum has to be signed by at least seven persons, because this is the lowest number which can form a public limited company. They must set out their full names and descriptions and subscribe for at least one share each. The names must be witnessed and, having signed, every signatory is bound to take up the number of shares for which he has signed. They have to pay for their shares in cash, sign the memorandum of association and appoint the first directors. Until that time they act as directors themselves.

Articles of Association

It is not absolutely essential that a company should have articles of association, because there is what is termed table A, which is a model set of articles contained in the first schedule of the Companies Act, 1929.

Every company has to act upon these unless it has its own articles.

The articles must be printed, signed by the same persons who signed the memorandum of association and then the two together are filed with the registrar of joint stock companies at Bush House, London.

Nature of the Articles. These articles constitute the regulations for the management of the company as between the members themselves. They deal with: Transfer of shares; calling up uncalled capital; increasing the capital; meetings of shareholders and directors; the keeping of the minutes; the use of the seal of the company; borrowing powers of the company; the notices which have to be sent out to the members; the division of the share capital among the members, if it is not mentioned in the memorandum of association.

The effect of the articles is that of a covenant between the members of the company. Every member of the company is bound by the articles as if he had signed them. The result is that each member is bound to the company and each member is bound to the other members. Neither the company nor the members are bound to outsiders. The articles are merely an agreement between the members themselves or between the members and the company. The articles cannot confer rights beyond the powers of the memorandum. They can only give rights which are *intra vires* (within the power of) the memorandum.

Alteration of the Articles. The articles can always be altered by a special resolution of the company, which is one passed by three-fourths of those present and voting at a meeting and confirmed at another meeting held between two and four weeks after the first meeting and passed by a majority.

There are three limitations to the rule that articles can be altered : (a) They must not make anything illegal ; (b) they must not go outside the powers given by the memorandum ; (c) nothing can be done which would be constituted as a fraud on a minority of the members. For example, suppose a company has a capital of £10,000. A resolution is passed to confer special rights on the holders of shares numbered 1-9,000 and to leave shares 9,001-10,000 as they were. This would be void.

The broad principle is that the interests of the company should be taken as determining whether the action is void or not. In each case it has to be considered whether a proposed alteration is for the purpose of benefiting the company as a whole, and it is for that reason that the rights of the shareholders would ordinarily be fixed by the memorandum.

After the memorandum and articles have been registered, they can be inspected at the registry of joint stock companies by any member of the public on payment of a small fee.

Preliminary Contracts

Having prepared the memorandum and articles and before they are signed and filed, consideration must be paid to the business aspect of the matter—the acquisition of the assets—and for that purpose it is usual for a preliminary contract to be entered into. The normal object is to acquire some going concern. Where this is the case, a contract would be entered into by the owner of the business with some other person. The latter cannot be the company because it is not yet in existence ; nor can it be an agent, for there cannot be an agent of a non-existing concern. The course adopted is for the vendor to make a contract with someone who has to act as a nominee. This sets out all the terms on which the vendor is to part with his assets, together with a statement of the preliminary costs and expenses.

When the company comes into existence, it is not bound by that contract because no company can ratify a contract made on its behalf, if the contract was made before it came into existence. A further point is that the company cannot sue upon the contract, because, being unable to ratify it, the company cannot hold the other party liable, any more than it can be liable itself. The agent is usually a nominee such as a solicitor's clerk. The arrangement is that as soon as the company adopts the agreement, the agent's liability shall cease. The company agrees to perform all the obligations which the agent entered into in the agreement. If the company does not come into existence the agent could sue on the contract if the vendor did not carry it out ; but the difficulty is that the agent has to prove his damages. In view of these difficulties it has become more and more frequent not to enter into that preliminary contract ; up to recent years it was always done.

Certificates of Incorporation

Having made the preliminary arrangement, incorporation is obtained by filing with the registrar of companies the following : the memorandum ; a statement of the nominal capital of the proposed company ; the articles of association (if any) ; notice of the situation of the registered office ; form of consent to act as directors ; list of persons who have consented to be directors ; statutory declaration of compliance with the Companies Act 1929,

which must be made either by the solicitor engaged in the promotion or by a director or secretary *named in the articles*.

These documents having been filed, and the special registration fees duly paid, the registrar issues the certificates of incorporation and the new company comes into existence.

The association of individuals forthwith becomes a corporate body with an independent legal existence apart from the individuality of the several members comprising it, and capable of carrying out the objects for which the company was formed.

Company Promoter and his Prospectus

Having brought the company into existence the promoter's next step is to decide whether to appeal to the public for money. This should be done at an early stage, because the company, although incorporated, cannot yet commence business. Before this is possible, a number of formalities have to be carried out.

The promoter, who is often the vendor to the company, sometimes buys the old business with a view to floating it. He is technically defined as one who floats a company with a given object and sets it in motion. He is not a trustee or agent for the company because he often acts long before the company is brought into existence. He stands in a very peculiar and unique position, because he is a kind of trustee for the company which has to come into existence in the future, and has often to refund the secret profits he makes. The first thing the promoter ought to do is to see that there is a board of independent persons who are to deal with him in the arrangements he makes for establishing the new company, and he should disclose all the facts in the prospectus.

Issuing the Prospectus. When a company wishes to have capital from the general public, it is usually necessary to issue a prospectus, which is an invitation to the public to apply for shares. It is defined by the Companies Act, 1929, as a "notice, circular, advertisement or other invitation offering to the public for subscription or purchase any shares or debentures of a company." All facts concerning the company likely to encourage the public to take up the shares are stated: past earnings, future prospects, estimates of profits and so on. Attached to the prospectus is a form of application which the intending shareholder fills in and forwards to the company's banker, together with a cheque for the amount payable on application. This amount in the case of a £1 share may be, say, 2s. 6d. only.

In due course the applications are considered, and the shares for which applications were made are allotted. It may happen that the number of shares applied for is in excess of the number offered, in which case the issue is said to have been over subscribed. In these circumstances some applicants would receive less than the number of shares for which they applied and some would receive no shares. In the latter case their money would be returned accompanied by a letter of regret.

Contents of the Prospectus. The prospectus must be dated and a copy must be signed by every director or proposed director. The prospectus must be delivered to the registrar for registration and must state on the face of it that a copy has been filed. The prospectus must state :

1. The contents of the memorandum of association. This is usually printed on the back of the prospectus.
2. The number of "founders" or deferred shares (if any).
3. The number of shares (if any) fixed by the articles as the qualification of a director and the remuneration of the directors.
4. The names, descriptions and addresses of the directors.
5. The minimum subscription on which the company can proceed to allotment.
6. The amount payable on application and allotment.
7. The number of debentures issued as fully paid or partly paid other than in cash.
8. The names and addresses of the vendors and the amount payable to each.
9. The amount of the purchase money, specifying the amount payable for goodwill.
10. The amount of the underwriting commission (if any).

This is the commission which is payable by the promoters to various people or to a syndicate who ensure that the full number of shares will be taken up. They receive a percentage on the nominal amount of the issue, and if any shares are not taken up the underwriters have to take up the shares themselves. This fact must always be stated in the prospectus.

11. An estimate of the preliminary expenses.
12. The amount paid to any promoter and the consideration for such payment.
13. The date of, and parties to, any preliminary contracts.
14. Names and addresses of the auditors.
15. The name of every director interested in the promotion of, or the property to be acquired by, the company.
16. The rights attached to every class of shares. This is a most important section because it gives, to any person who wishes to invest money in a company, the fullest information on matters which otherwise might be withheld by the promoters.
17. Where the business has been carried on for less than three years, the time during which it has been carried on.

Names and Addresses of Directors. Amongst the matters alluded to is the statement of the names and addresses of the directors. No person can be appointed a director by its articles or named as such in a prospectus unless he has signed a consent to act and has signed the memorandum for his qualification shares; that is, a director cannot have a present made of his qualification shares—he must actually buy them from the company. He must take up his qualification shares within two months, or his appointment is vacated.

Minimum Subscription. The most important matter to be included in the prospectus is the statement of the minimum amount upon which the directors can proceed to allotment. The object of this is to prevent a company being floated and having only a small percentage of the capital subscribed. In this case the subscribing shareholders may find that their contributions have been swallowed up in preliminary expenses and underwriting commission. Therefore the minimum subscription must be stipulated in the prospectus.

No shares offered to the public can be allotted until the amount of the

minimum subscription mentioned in the prospectus or in the statement in lieu of the prospectus has been subscribed. The minimum subscription is the amount which in the opinion of the directors is required to cover the price of any property to be acquired, preliminary expenses, underwriting commissions, repayment of money borrowed for this purpose and working capital.

Statement in lieu of Prospectus. Where a company does not issue a prospectus it must, before allotting any shares and as a necessary condition of so doing, file with the registrar what is called a "statement in lieu of prospectus" which must give substantially the same information as would have been given in a prospectus, had one been issued.

Certificate Entitling to Commence Business

Although duly incorporated, a public company may not commence business nor exercise its borrowing powers until it has complied with section 94 of the Companies Act, 1929, and filed the statutory declaration of compliance.

It is important to reiterate that a company cannot allot shares nor commence business before the minimum subscription has been subscribed; and every director must have paid up the amount he is liable to pay in cash, and have filed a statutory declaration to that effect; and if there is no prospectus the statement in lieu of prospectus must have been filed. These matters must have been carried into effect before the company can commence business. Any contracts which the company makes before it is entitled to commence business are merely preliminary contracts which are not binding.

After these formalities have been carried into effect and the registrar is satisfied that the provisions of the Companies Act have been complied with, he issues a certificate entitling the company to commence business.

EXERCISES FOR PRACTICE

These exercises are based on the information given in the above lesson.

1. How does the organization of a business owned by a limited company differ from that of a business owned by an individual?
2. What are the differences between the memorandum of association and the articles of association of a company?
3. Trace the steps in the formation and registration of a public company with limited liability.

LESSON SIX

FINANCING THE BUSINESS

BUSINESS finance may be defined as the means adopted by business enterprises for raising and administering the funds required to enable them to conduct their operations. At every stage in the life of the business unit, those who are responsible for its direction and management are concerned with questions of finance. From the time when the undertaking comes into existence as a legal entity, and often long before, to the

time when it passes out of existence, finance tends to be the dominant consideration in each of its activities. Business finance, therefore, is concerned with such questions as the following :

1. The conditions under which a new enterprise may be launched.
2. The basis of its capitalization and the manner in which funds are raised.
3. Determination as to when expansion may take place.
4. The financing of purchases.
5. The financing of production and the control of production costs.
6. Determination of the financial aspect of the sales policy in such matters as terms of sale, collections, discounts and credit.
7. The exercise of financial control over every department of the business.

Nature of Business Capital

Business capital may be defined as the wealth which an undertaking uses in order to procure further wealth, and is consequently represented by the various assets which appear in the balance sheet of every business concern. The nature of these capital assets varies widely from one business to another. In the case of a manufacturing business they make take such forms as factory buildings, plant and machinery, stocks of raw materials, work in progress, and finished goods. A railway company will own permanent way, stations, rolling stock, hotels, etc. ; all of which are rightly described as capital since they assist in earning revenue for the concern in which they are employed. In spite of their diversity, however, it is possible to group all these types of business capital into two main classes, namely :

Fixed Capital. There are certain items of capital which are relatively permanent in their nature, such as factory buildings, warehouses, and retail shops, which may remain unaltered for years apart from the operations which are necessary for ordinary maintenance. Again, plant, machinery, rolling stock, and similar equipment possess the same characteristics, though in a less degree. Such assets inevitably waste or expire, either by wearing out or becoming obsolete, in carrying out the work of the undertaking, but normally this is a protracted process. These goods possess the further characteristic that they are usually of a specialized character, so that although they may possess considerable value to the concern which uses them, they may be almost useless to anyone else.

Circulating Capital. In contrast with the above we have certain assets which change their form rapidly, such as stocks of materials, book debts, bills receivable, or cash. It is this fund of circulating capital in its various forms which supplies the day to day needs of the business. Thus, we may start the cycle of operations with a fund of cash, or *liquid capital* as it is sometimes called. Part of this goes in manufacturing expenses and part in raw materials which are converted into finished goods. After further expenditure by way of selling charges, the goods are converted into book debts or bills receivable which are eventually liquidated in the form of cash. Capital passing through any of these stages may be designated *circulating capital* (Fig. 8).

As already indicated, in deciding on the capital requirements of a new business, much will depend on the nature of the undertaking. Thus, manufacturing businesses usually require considerably more capital than under-

takings engaged in distribution. In close relationship with this question is that of the scale on which it is proposed to conduct the concern. There are certain classes of enterprise, particularly in the realm of manufacturing industry which, under modern conditions, can scarcely be conducted on anything other than a large scale. Such business as iron and steel production, heavy chemicals, or motor manufacture are now carried on in large scale units which require a heavy initial expenditure on fixed capital, together with ample resources by way of circulating capital to meet current expenses.

Again, consideration must be given to the manner of commencing the business. If a new undertaking is being formed to take over an existing business then, whilst a larger amount of capital will have to be provided as the capital purchase price, in order to pay for the goodwill, the concern will have an established field of activity in which to operate. Provided that nothing is done to alienate old customers, revenue will come in from the commencement in satisfactory amounts. Where a new business is being founded, it will be necessary to overcome the competition of rivals and attract a circle of customers. In other words a certain period of time must elapse during which revenue will be below normal and during this time ordinary expenses will have to be met. In these circumstances more working capital will have to be provided than in the first case.

The requirements of a business for circulating capital vary from time to time, and the following classes may be recognized :

Initial Circulating Capital. This is the amount of liquid capital needed to start up the circulation in a new business and keep the business in operation until the income reaches normal proportions. The amount thus required may be larger than the average requirement after the business has commenced to function normally.

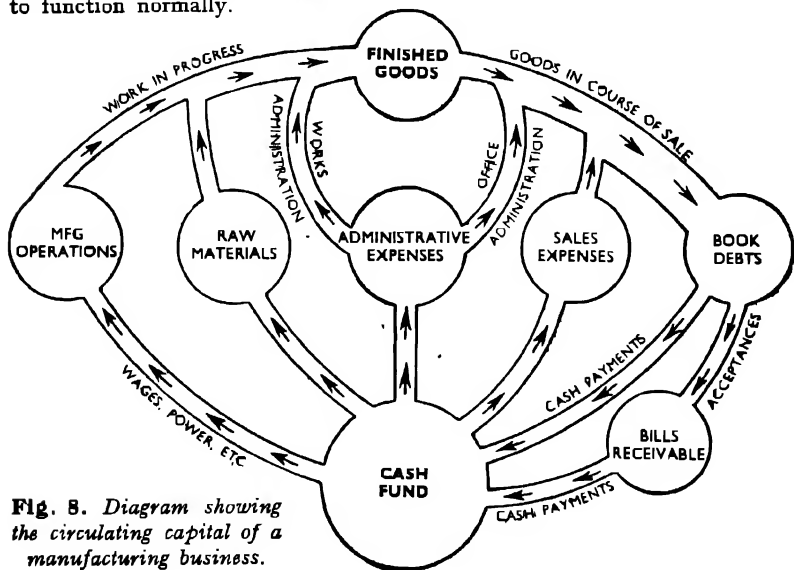


Fig. 8. Diagram showing the circulating capital of a manufacturing business.

Regular Circulating Capital. This is the irreducible minimum of circulating capital necessary to keep up the healthy circulation of current assets. It is therefore an amount of circulating capital which will always be found in a business if that business is functioning in a normal manner.

Seasonal Circulating Capital. Beyond the initial and regular circulating capital most businesses will require at stated intervals a larger amount of current assets to fill the demands of the seasonal busy periods. Thus, in the wholesale fur business, extra funds will be necessary in the summer, while in the drapery business extra funds will be necessary to initiate the purchasing of goods for the four seasons of the year.

Special Circulating Capital. Most business will need, at irregular intervals, extra current funds to meet special contingencies. Thus, a prospective rise in prices may increase the requirements of a business for circulating capital by leading to heavy purchases of stocks. Again, special operations, such as the inauguration of extensive marketing campaigns, experiments with products or with methods of distribution, may require additional funds.

Requirements of Circulating Capital

When a business undertaking has an adequate supply of working capital, realized primarily from the proceeds of the sale of its products, it can meet its cash obligations promptly and thus preserve its credit standing. A feeling of security is likewise engendered in the management and in the working force of such an enterprise. The amount of working capital required varies considerably in different enterprises, but certain general factors must be kept in mind :

A business conducted on a cash basis requires relatively little working capital, since the steady flow of receipts into the cash reservoir normally replenishes this fund as quickly as it is used.

As the volume of business expands, the demand for working capital increases. This is true not only because a relatively larger working capital is necessary to keep up credit, but because actual cash outlay is likely to exceed the cash income for a time.

Cost of manufacture will influence the amount of working capital required, not only because high costs mean that large sums of cash will be tied up during the period of manufacture, but because all expenses are likely to be in scale with direct manufacturing costs.

Time consumed will also have some effect on working capital. If, however, the flow of products through the factory is steady, the working capital will not vary even though the value of work-in-progress may be large.

Businesses which have a rapid turnover of product will tend to require less working capital than those with a slow rate of turnover. A rapid turnover is usually considered evidence of sound financial management.

Proprietors' Capital

A considerable proportion of the capital employed by business enterprises must be found by their proprietors. In the case of a sole trading concern the capital will be provided by the founder of the business from his own savings, and will be represented in his books of account as the difference between the total assets and liabilities on the date of commencing business.

This capital will be increased by the profits and diminished by the losses of the business. In the case of the partnership concern the position is exactly the same except for the fact that each partner has his individual capital account. In addition to the direct investments of capital by the owners of a business, capital may also be provided by allowing profits to accumulate in the business, usually in the form of reserves, or in the form of an undivided balance of profit and loss account.

In the case of the joint stock company, the capital is usually raised by a general appeal to the investing public for subscriptions. Such companies divide their capital into a large number of fractional parts called shares, each one of which has usually the same nominal value, the most common denomination being one pound. The rights which attach to the owners of these shares vary according to the conditions laid down by the company at the time of issue, and it is open to the company to issue more than one class of share. The following are the chief classes :

Non-Cumulative Preference Shares. These usually rank first both as to payment of dividend and return of capital. Preference shares may be issued carrying the first of these preferences only, but if they carry both, then (a) the fixed rate of interest attached to the shares must be paid out of profits before the ordinary shares rank for dividend ; (b) in the event of the company going into liquidation, preference capital has the right to prior payment before other classes of shares, should funds for repayment be available after payment of debts.

These shares carry a preferential right to dividend out of the profits of each year only, that is, so far as profits are available to pay the dividend. The decision as to what profits are available rests with the directors.

Cumulative Preference Shares. With this class of shares, the preferential rights to dividend accumulate from year to year in the event of the non-payment of the dividend, the arrears of one year being carried forward to the next. There may, of course, be several classes of cumulative preference shares, each ranking for dividend in a certain order.

Participating Preference Shares. In addition to the advantages attaching to cumulative preference shares, these shares carry a right to a fixed share in the surplus profits after payments of the fixed dividend to which they are entitled, usually after a certain minimum has been paid on the subordinate classes of shares.

Redeemable Preference Shares. A company may, if so authorized by its articles, issue preference shares which are, or at the option of the company are, liable to be redeemed. No such shares may be redeemed except out of the profits of the company which would otherwise be available for dividend or out of the proceeds of a fresh issue of shares made for the purpose of the redemption. Such shares can be redeemed only when fully paid.

Ordinary Shares. The bulk of the shares issued by most limited companies are of this class. Ordinary shares carry no special rights as to dividend or capital repayment. Generally, they are entitled to the surplus profits remaining after the prior fixed dividends, enumerated above, have been satisfied.

Founders' Shares. These shares are usually issued as fully paid to the promoters or managers of the issuing company. As regards dividends they

usually stand aside until an agreed dividend has been paid on the ordinary shares. Though generally few in number and insignificant in normal value, the voting powers which they command and the profits they share are often considerable. They are not popular with the investing public since they do not always lead to prudent management, the holders being usually desirous of dividing all available profits without much regard for the prudent building up of reserves.

Co-partnership Shares. These shares are sometimes issued to a company's employees in order to give them an interest in the concern. Frequently such shares carry no voting power. They are usually entitled to the same dividend rights as the ordinary shares, but their transfer is usually under the control of the company.

Outside Capital

In addition to the capital which is contributed to a business by its proprietors, an undertaking also obtains a considerable proportion of its resources from outsiders. These contributions of capital may take the form of direct loans to the concern for various periods of time, or indirect loans in the form of trade credit. The greater part of this capital is short-term capital, so that its nature is constantly changing. The chief sources from which it is obtained are :

Debentures. In its simplest form a debenture consists of nothing more than a mere acknowledgement of a debt given to a creditor. It may, however, contain provisions for the giving of security to the creditor, and in such cases the documents are known as *mortgage debentures*. In form the debenture is similar to the share, being transferable and of low nominal value, but the legal positions of the holders are very different. A shareholder is a proprietor of a company whereas a debenture holder is merely a creditor. Debentures may be either redeemable or irredeemable. The former are issued subject to the conditions that the company shall redeem them on or before a certain date, while the latter have no fixed date for redemption.

Bank Loans. The loans and advances made by commercial banks are a second important source of outside capital. This method of finance will probably be resorted to if a limited amount is required for a comparatively short period of time. Generally speaking, British banks are willing to provide some of the circulating capital required for business purposes, but are not prepared to lock up their resources in fixed capital assets. This type of advance is usually made against some form of security such as : (a) Gilt-edged securities ; (b) shares in reputable limited companies ; (c) personal guarantees of directors ; (d) mortgages of land or buildings.

Trade Suppliers. Although, obviously, trade suppliers are not specifically engaged in financing those business houses with which they deal, in actual practice they frequently provide an undertaking with a considerable amount of circulating capital. When they supply goods on credit to traders they are in reality placing some of their capital at the disposal of the trader for the term of the period of credit, and this capital can be utilized for the purposes of the business. Provision of capital in this way is usually a very informal matter, being based upon the personal knowledge which the supplier has of the trader receiving it. This method may appear to be an

easy way of obtaining working capital, but very frequently it proves expensive. The person advancing it may recoup himself by charging an extra price for the goods which he sells, or by demanding other concessions.

EXERCISES FOR PRACTICE

These exercises are based on the information given in the above lesson.

1. What is meant by the capital of a business? Distinguish between "fixed" and "circulating" capital, giving examples of each kind.
2. What are the different kinds of shares ordinarily issued by a joint stock company? Explain the rights of each class to share in the profits of the company.
3. From what sources may the business man derive capital for the conduct of his undertaking?

LESSON SEVEN

MONEY—THE MECHANISM OF EXCHANGE

THE most primitive form of exchange is that of barter, that is the direct exchange of goods for goods. In barter each person has to find someone who not only desires what is offered for sale but has the right thing to give in exchange for it.

A man has made a watch and wants a coat, but on taking the watch to the maker of coats, finds that the latter is in no need of a watch, but wants at the time a supply of fish; and even if the man who had a watch and wanted a coat were fortunate enough to meet the man who had a coat and wanted a watch, the question as to the rate of exchange might give rise to a discussion of inconvenient length. Accordingly, at a very early period of its history, civilization contrived a way out of these difficulties, by enlisting the service of some other commodity which every one would be willing to receive in exchange for his goods, and thus substituted triangular for direct barter. The watch-maker sells the watch for a sovereign, and then sells the sovereign for the coat, and the two traders are helped out by means of the same contrivance. And the commodity thus fixed upon to serve as money is soon found to be capable of two additional functions besides those of a medium of exchange and a measure of value. A promise to pay at a future date can be precisely expressed, exactly realized, and even legally enforced, if made in terms of money; while, if it be desired to store up value with a view to a future transaction, the money of the State at the time will form the most convenient possible store.

These considerations provide us with a definition of money as a commodity, chosen by common consent to act as a medium of exchange, a measure of value, a standard for deferred payments and as a store of value.

Kinds of Money

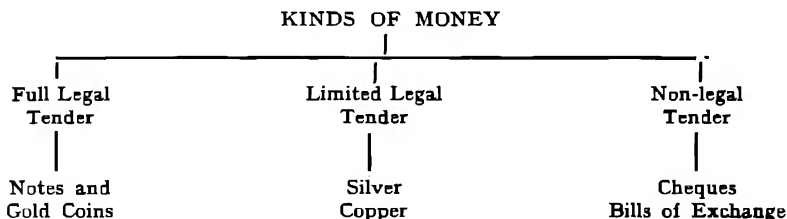
The monetary system of every country consists of several different kinds of money, all of which have their uses and their place in the system. We may distinguish in the first place between bank money and ordinary money

Bank money consists of cheques. A cheque can only be used in the discharge of a debt or in the exchange of goods when the person who signs it has, or is thought to have, money to the value of the cheque deposited in a bank. Its acceptance involves special knowledge of, or at any rate confidence in, the resources of the owner—in other words, it is not universally acceptable.

Ordinary money is universally acceptable within a given political area. The greatest degree of acceptability is possessed by what is called full legal tender, namely, units of the country's currency which must be legally accepted within the country in all economic transactions. Such are the pound note and the former gold sovereign.

The note, though in exchange equal to a sovereign, is actually made of paper. Its exchange value is much greater than the value of the material of which it is made. Such money is called *token* money. The sovereign is called full bodied money, since its value is equal to the value of gold in it.

A second class of legal tender money is known as "subsidiary money." Pence, sixpences, shillings, etc., are legal tender, but only up to a certain limit. You may legally refuse to accept more than twelve pence, or more than forty shillings, in settlement of a transaction. In practice of course people rarely refuse to accept larger amounts of copper and silver than the maximum fixed for legal tender, because their value is not suspected and it is convenient to have small change. Money may be divided as follows :



Qualities of Money

For a commodity to fulfil properly its various functions, it must possess certain qualities :

1. It must be universally acceptable. People must be willing to have it.
2. It must be durable. Fruit, though portable and usually acceptable, would not do because it goes bad.
3. It must be divisible without losing its value, otherwise one could not get pieces both of the same size and the same value. Diamonds would not be suitable, because they cannot be divided without heavy loss.
4. It must be uniform, so that one piece of it is worth as much as any other piece of the same weight.
5. It must be readily portable.

A group of commodities was discovered to be as nearly ideal as possible, namely, the precious metals. Gold and silver are at once acceptable, durable, divisible without loss, uniform in quality and portable. Gold and silver have in all civilized communities displaced all other substances as basic forms of money, though for convenience we use two others, copper and paper.

Civilization itself is progressive. It no sooner evolves a contrivance to meet a difficulty than it sets to work to find a substitute for that contrivance which will do the work at less expense and trouble. Such a substitute for money is found in the various forms of "paper money." Strictly speaking, paper money is not money at all. All forms of paper money are really credit documents—promises to pay which do the work of actual money for so long, and so long only, as they are trusted by the people. Three kinds of such documents are in actual use—the bill of exchange, the cheque and the bank note. All these are instruments for accomplishing the exchange of goods for goods without the use of those very expensive substances—gold and silver.

Bankers' Clearing-House

The bankers' clearing-house is an institution where representatives of different banks meet to cancel the sums due from one to the other, and to pay and receive such balances as may be over. These balances are paid in drafts on the Bank of England, "the banker's bank," and can be cancelled to a great extent from day to day, so that the whole system greatly economizes the use of the currency of the country. There are eleven clearing banks in London, including the "Big Five," Barclays, Lloyds, Midland, National Provincial and Westminster, and the National Bank, Glyn Mills, Coutts, Martins Bank, Williams Deacon's and District Bank.

In addition to cheques, bills of exchange and promissory notes are freely passed through the clearing-house, and are indicators of the enormous amount of credit transferred from one hand to another. Bankers have to be prudent when credit is created, to see that allowances are made for the possible cash demand involved in the use of cheques. In addition to the London clearing-house, there are provincial clearing-houses at Birmingham, Bristol, Leeds, Leicester, Liverpool, Manchester, Newcastle, Nottingham and Sheffield. Each one clears cheques within its own town and the area surrounding it. Clearing houses similar to those of the provinces exist in Scotland and Ireland. Up to the present there is no one clearing-house for all three countries and this is a great drawback, incurring financial loss.

The settlement of mutual dealings through the London clearing-house is dealt with by means of summarized sheets, that is, printed lists with debit and credit columns showing the liabilities of the individual bank to the bank whose name appears at the head of its own list, for example

The following are specimens of clearing-house transactions between the banks A, B, C and D.

Accounts of Bank A

Cheques upon B	Cheques upon C	Cheques upon D
£	£	£
40	55	10
25	12	150
10	45	5
120	100	68
50	50	24
<hr/>	<hr/>	<hr/>
245	262	257

Accounts of Bank B.

Cheques upon A	Cheques upon C	Cheques upon D
£	£	£
26	39	104
130	13	26
65	110	20
35	25	15
50	30	40
<hr/>	<hr/>	<hr/>
306	217	205
<hr/>	<hr/>	<hr/>

Accounts of Bank C.

Cheques upon A	Cheques upon B	Cheques upon D
£	£	£
120	180	204
24	40	26
48	25	10
<hr/>	<hr/>	<hr/>
192	245	240
<hr/>	<hr/>	<hr/>

Accounts of Bank D.

Cheques upon A	Cheques upon B	Cheques upon C
£	£	£
100	120	150
50	60	75
25	30	25
<hr/>	<hr/>	<hr/>
175	210	250
<hr/>	<hr/>	<hr/>

Accounts of A will be adjusted as follows :

	Dr.	Cr.
	£	£
Bank B	306	245
„ C	192	262
„ D	175	257
	<hr/>	<hr/>
	673	764
	<hr/>	<hr/>

The balance to be credited at the Bank of England—£91

These summary sheets are compiled after the following four clearings for each day have been effected :

Metropolitan—consisting of cheques drawn on the branches of clearing banks situated in London.

The First Town Clearing—cheques drawn on the clearing banks and received since the closing of the clearing-house on the previous day.

Country Clearing—cheques drawn on country banks.

Second Town Clearing—(the busiest of all), cheques drawn on members of the clearing-house and paid in during the morning, and also cheques received from suburban and branch banks during the morning.

Each clearing bank keeps an account at the Bank of England and there is also a general account known as the clearing bankers' account. If on any day a bank is indebted to the others on balance, a white ticket is made out to effect a transfer from its account at the Bank of England to the clearing bankers' account. If, on the other hand, it is in credit a green ticket is used to authorize a transfer from the clearing bankers' account to the banker's own account at the Bank of England. Both tickets are signed by an inspector at the clearing-house to certify their correctness.

If there are any returns, that is, dishonoured cheques, they are sent back to the clearing-house before 4.10 p.m. on the day of exchange, if they are London cheques. Country cheques, however, are returned by the paying bank direct to the banker on whom the cheque was drawn, and a settlement in respect of such cheques is made without subsequent resort to the clearing-house, though the London agents have to be informed of the fact that they have been dishonoured.

The amount of transactions varies from £200 to £300 millions each week, while in New York, until the slump of 1929, the volume of the cheques was roughly £1,000 millions per week.

The extent of the bankers' clearings are an indication of the state of trade and of financial activities from year to year.

EXERCISES FOR PRACTICE

These exercises are based on the information given in the above lesson.

1. Define money and state briefly the difficulties which the use of money overcomes.
2. Enumerate five different methods of settling a debt.
3. Explain the functions of the bankers' clearing-house.

LESSON EIGHT

CHEQUES—NATURE AND MEANING

THE law relating to cheques is incorporated in the Bills of Exchange Acts, 1882 and 1906, in which the legal definition of a cheque is given as a "bill of exchange drawn on a banker payable on demand." All cheques must bear a revenue stamp, which may be embossed (i.e. impressed) or affixed (i.e. an adhesive stamp). The stamp is generally impressed, but if affixed it must be cancelled.

All banks supply their printed form of cheque free of charge to their customers in books of twelve and upwards duly numbered, debiting their account only for the amount of the embossed stamps. When a new cheque

book is required an "order" is filled up, stating the number desired in the book (12, 24, 48, 120), whether the cheques are to be "crossed" or "uncrossed." This is signed and forwarded to the bank. The law permits a cheque to be drawn on a piece of paper which is duly stamped. It is, nevertheless, best to make a rule of only using the banker's regular printed form. If, however, an irregularly drawn cheque is unavoidable, the banker should be immediately advised.

The cheques of most banks are similar in form; they vary only in the name of the bank, the type, and sometimes in the colours in which they are printed.

<p>No. <u>008725</u></p>	<p><u>10th Sept.</u></p>
<p>To The Newlands Banking Company, Limited (Stamp)</p>	
<p>Pay <u>Messrs Thompson & Son</u> or Bearer</p>	
<p><u>One Hundred & Eight Pounds Eleven Shillings and Fourpence</u></p>	
<p><u>J. F. Harrison & Co.</u></p>	
<p><u>T. Jones</u></p>	<p><u>£</u></p>
<p><u>Cashier</u></p>	

Fig. 9. Specimen of a bearer cheque in the usual form issued by the banks.

"Bearer" and "Order" Cheques

There are two kinds of cheques: cheques to bearer (Fig. 9); and cheques to order (Fig. 10). A bearer cheque may be paid to anybody presenting it, but an order cheque must be endorsed by the payee, before the bank will pay the money. As this increases the safety, order cheques are more frequently used.

Filling up a Cheque. In filling up a cheque points must be observed with regard to date and amount.

1. The date should be the same as the day of drawing, but it is not illegal to *antedate* or *postdate* a cheque. Bankers generally refuse to pay a cheque which is six or more months old.

2. The words of the amount should begin close to the left hand side, so that words and figures cannot be added fraudulently to increase the value, and the words should be written close together to prevent alterations such as *eight to eighty, nine to ninety*. If the words and figures differ, the banker could pay the sum indicated by the words, but would generally return the cheque marked "irregular" or "words and figures differ."

Should the banker not have enough funds to the credit of the drawer to meet the cheque, he returns it marked R/D (i.e. refer to drawer) or N/S (i.e. not sufficient funds).

Parties. The parties to a cheque are the drawer, the drawee, and the payee, and in the case of an order cheque, endorser and possibly endorsee.

Endorsing a Cheque. A bearer cheque legally requires no endorsement, but most people, even banks, ask for one before accepting the cheque, in order to protect themselves against fraud. If the payee simply signs his name on the

No. 78623 2nd Sept 1914 ad. Stamp

To The Newlands Banking Company, Limited

Pay Messrs Brown & White or Order

Fifty Pounds

£ 50 per pro Brown & Co.
T. Jones, Cashier

Received from Messrs Brown & Co.

the above-named sum of Fifty Pounds in settlement of

Account rendered Brown & White

No other acknowledgement required

Fig. 10 Specimen of cheque to order, with receipt form included on the face of the cheque. A cheque to order must be endorsed before payment is made.

back of an order cheque it is called a *blank* or *general* endorsement, and the cheque can pass from hand to hand like a bearer cheque. If he writes on the back "Pay Messrs X & Co. or Order" followed by his signature, it is called a *special* endorsement or an "endorsement in full," and the cheque can only pass to another person after it has been provided with the endorsement of Messrs. X.

If the endorsement runs "Pay Messrs X & Co. only," it is called a *restrictive* endorsement, and the cheque therefore cannot be negotiated further.

The banker cannot be held liable for cashing a cheque with a forged endorsement, if he acts in good faith, but he is responsible should he pay a cheque on which the *signature* of the drawer is forged.

In case the name of the payee of a cheque is wrongly spelt, he must endorse first with the wrong spelling and afterwards add his properly spelt name underneath.

Letter Enclosing a Cheque. The amount of the cheque should be stated in the body of the letter. Full particulars of how this amount is calculated should be given at the foot of the letter (Fig. 11).

Examples of Endorsements

1. *Blank or General*: (a) James Brown; (b) W. Watson & Sons; (c) per pro Smith & Co., Ltd., J. W. Wilson, Director.

2. *Special*: (a) Pay Messrs. T. Hunt & Carpenter or Order Charles Black & Sons; (b) Pay to the Order of Lloyds Bank, Cardiff, Western Packing Co. per Thomas Brown, Cashier.

The last endorsement on a cheque is often to a bank for collection.

Alterations on a Cheque. A bearer cheque can be altered to an order by the drawer or the payee. This is done by crossing out the one word and writing in its place the other together with the initials of the person who makes the alteration. All alterations on a cheque must be initialled.

Various methods are adopted to prevent the fraudulent alteration of a cheque, e.g. the amount can be perforated into the cheque by a cheque punch, or "under ten pounds," "under fifty pounds," etc., as the case may be, written or stamped across it.

Crossing. A further precaution to ensure the safety of a cheque is to cross it. A crossed cheque will be paid only to a banker. The holder of it cannot receive money for it at the bank; he can only pay the cheque into his banking account, and the bank credits his current account with the amount. For the sake of safety most cheques are crossed. Should, however, a person who has no banking account receive a crossed cheque, he must find a

HARRISON & CO.		20 Queen Street, Cardiff
Telegrams:		
Harrison, Cardiff.		<u>Sept 10th 1911</u>
<u>Messrs Thompson & Son</u>		
<u>Cambridge Circus, London, W. C. 2.</u>		
Dear Sirs,		
We have pleasure in enclosing Cheque for <u>£ 108 " 11 " 4</u>		
in discharge of your account. Please acknowledge in due course.		
Yours faithfully,		
<u>Harrison & Co.</u>		
79.		
Your Statement	<u>£ 110. 16. 0</u>	
Less Returns and Credit	<u>10. 0</u>	
	<u>110. 6. 0</u>	
Less Discount	<u>1. 14. 8</u>	
Cheque herewith	<u>£ 108. 11. 4</u>	

Fig. 11. The above illustrates the form of letter which should be sent with a cheque. Note the inclusion of particulars showing how the amount is calculated.

friend with a banking account, who is willing to do him the favour of advancing the money and passing the cheque in through his own account. This is often very inconvenient and difficult.

Although many variations in the form of crossing can be found, there are really only two kinds of crossings on cheques, namely, general and special.

Midland Bank Ltd.	
Midland Bank Ltd. A.C. PAYEE ONLY	& Co.
Midland Bank Ltd.	Not NEGOTIABLE
Not NEGOTIABLE	
Midland Bank Ltd.	Not NEGOTIABLE
Under Ten Pounds	& Co.
	Under Ten Pounds

Cheques which are not crossed are known as *open cheques*. A cheque can be crossed by any endorser, but the crossing is usually done by the drawer. In a special crossing it is permissible to write only the name of the bank and to omit the parallel lines. This kind of crossing is rarely found.

From the above it will be seen that the crossing, if added by the drawer, consists almost invariably of two parallel lines generally drawn slantingly across the cheque from the bottom to the top; in case of cheques with the crossing already printed on them when issued by the bank, the crossing is at right angles. The addition of "& Co." does not make the cheque a specially crossed one. The drawer of a specially crossed cheque should be careful to put in the right name of the bank of his correspondent. Crossed cheques can be endorsed and pass from hand to hand like open cheques.

The addition of "not negotiable" to a cheque, whether crossed or not,

does not prevent the cheque being negotiated in the sense of being passed to a new holder, but any one who accepts the cheque does so at his own risk, that is, subject to the defect of title of transferor. The cheque is still transferable, but it has lost the quality of negotiability. The following explanation will make this matter clear.

On an ordinary cheque any one of the endorser is liable to pay its full value, should it not be paid when presented. If "not negotiable" is written on a cheque, the last holder can only recover the value from the person from whom he received it and each other endorser from his predecessor. Thus, in the case of a cheque having been stolen and of the thief putting a false endorsement on it, the man who was careless enough to take it from the thief is the loser. If "not negotiable" did not appear on a cheque, a holder of it could not lose, provided he had accepted the cheque in good faith.

"For account of payee only" or "For account of Messrs Brown & Co." (i.e. with the name of a special person or firm) is occasionally written across the face of a cheque with the purpose of ensuring its safety. It has the effect that the amount can only be credited to the payee and that the cheque cannot pass from hand to hand by endorsement.

Changing a Crossed to an Open Cheque. A crossed cheque can be changed to an open one by the drawer writing across it "Pay Cash" to which he adds his signature. Such alteration should be avoided as much as possible.

Presentation and Stopping of Payment

A cheque should be presented for payment within a reasonable time, i.e. in most cases not later than the day following its receipt. This is, however, often not done, especially when the payee feels sure of the solvency of the drawer and of the bank.

If the drawer of a cheque learns that it has been stolen or lost, he should instantly instruct his banker to stop payment. If he thinks fit, he can also stop payment for other reasons.

The banker can or must refuse payment of a cheque : (a) if insufficient funds are in his hands ; (b) if he receives instructions from the drawer to stop payment ; (c) if he receives notice of the drawer's death, bankruptcy or certified insanity ; (d) if he is served by an order from the court forbidding him to part with any of the customer's money ; (e) if it is clear that the money is being drawn for an unlawful purpose ; (f) if the cheque is torn in pieces.

EXERCISES FOR PRACTICE

These exercises are based on the information given in the above lesson.

1. What are the practical advantages of the cheque system in business ? Distinguish between "bearer" cheques and "order" cheques, and "open" and "crossed" cheques.
2. Explain with illustrations the following terms employed in connexion with cheques : (a) special crossing ; (b) endorsement in blank ; (c) restricted endorsement.
3. Explain fully the general form and uses of a "crossed cheque." To what extent do the words "Not negotiable" affect the transfer of cheques ?
4. Wm. Smith of Manchester, who banks with Lloyds Bank Ltd., has a

book of "or order" cheques. Wishing to obtain cash from his bank he draws (so as not to require endorsement) a cheque in his favour for twenty pounds. Draft this cheque.

LESSON NINE

OTHER METHODS OF PAYMENT

PAYMENTS through the post are made by postal orders for sums up to 21s.; and by money orders for sums above 21s. Many firms make all payments by means of cheques. Coins must not be remitted through the post except in registered letters. They are seldom sent in this form because of the greater convenience of stamps, postal and money orders, and cheques. Postal orders may be remitted for almost every sum from sixpence to 21s. The recipient of a postal or money order may collect the sum from the post office, or pay it into his banking account. If it is desired to forward a sum of £1 os. 8d. through the post, you would buy a postal order for £1 os. 6d. and make up the amount by affixing 2d. in postage stamps, or else you would fill in a request for an inland money order and pay £1 os. 8d. together with the poundage, receiving the money order in exchange. On receipt of the postal order or the money order by the addressee, it would be handed into the receiving post office and the money would be paid against the signature of the recipient.

To save regular customers the trouble and expense of obtaining a separate money order for each transaction, some business firms open a kind of current account with their customers. A certain amount is credited and each transaction is debited to this account.

Bills of Exchange

The law relating to bills of exchange is set forth in the Bills of Exchange Act, 1882, in which the following definition is given: "A bill of exchange is an unconditional order in writing addressed by one person to another, signed by the person giving it, requiring the person to whom it is addressed to pay on demand or at a fixed or determinable future time a sum certain in money to or to the order of a specified person, or to bearer." The Act goes on to say: "An instrument which does not comply with these conditions, or which orders any act to be done in addition to payment of money is NOT a bill of exchange."

Bills of exchange are negotiable instruments. There is a maxim of English common law, which applies to all ordinary goods and chattels and to many documents, that no one can give to another a thing which he does not own—*nemo dat quod non habet*. If any one received a bill of lading, or a dock warrant, both of which are transferable by endorsement, from a person who had no good title to it he would have no better title than the person from whom he received it. But this rule does not apply to negotiable instruments. The property in these latter instruments is acquired by any one who takes them in good faith and for value, notwithstanding any defect of title in the person from whom he took them.

Bills of exchange are generally called bills, drafts or acceptances.

The law distinguishes between *inland* bills and *foreign* bills. The former is "a bill drawn and payable within the British Isles or drawn within the British Isles upon some person resident therein"; all other bills are *foreign* bills. The wording of an inland bill is usually to the following effect:

£500

Cardiff: May 24, 194..

Three months after date pay to Mr. James Crompton
or order five hundred pounds for value received.

5s. stamp.

To Messrs. Smith & Co.,

30, Kingsway,

London W.C. 2.

T. Holiday & Son.

As the law does not prescribe a special wording for a bill, a number of variations are to be found, e.g. at sight, on demand, on presentation, after sight, pay to our order, to us or our order, to bearer, the sum of (frequently omitted especially on cheques). *For value received* is not necessary, but is usually found on a bill; sometimes, instead, one finds *as advised*.

The form of a simple foreign bill is given below.

No. 517

EXCHANGE for £150 19s. 6d., Sterling

London: Aug. 24, 194..

stamp.

25.

Sixty days after sight of this our first of exchange (second and third of the same tenor and date not paid) pay to the order of Messrs. Greenland & Co. one hundred and fifty pounds nineteen shillings and sixpence, sterling value received.

To Messrs. Jones & Rees,

Bombay

Morgan & Sons.

On the foreign bill just as on the inland bill many variations and additions are to be found, e.g. the number is often at the bottom, the value in figures is often given with the omission of "exchange for," the bill often begins: "*At . . . days (months) after sight (date) pay this first of exchange (second and third of same tenor and date being unpaid) to us or our order the sum of . . .*" Many additions not required by law, but not forbidden, are added for the convenience of merchants, e.g. "*together with Exchange for sight draft on London bank commission and stamp*" . . . "*Documents attached to be surrendered against payment*".

The *parties* to a bill are for the most part the same as to a cheque, viz.

drawer, *drawee* who is also *acceptor* and *payer*, *payee* who may be the *drawer*, or another person, *endorser* (to a bill to order) and often the *endorsee*.

Foreign bills are generally drawn in sets of two or three and the first of exchange is sent by the first mail, the second by the next, and the third by the next following, in order to prevent delay in case of loss in the post. The drawee must be careful only to sign one of the set, otherwise he can be made liable for the full sum for each acceptance. When the accepted part is paid, the others are null and void. If a bill is only drawn in one part, it is called a *sola of exchange*.

Merchants call the different parts of a bill *vias*. If a bill is a *sola* it is very often necessary to make a copy of it. This must be done exactly and it must bear on its face the word *copy*.

When a bill of exchange is drawn in a set, and one of the set is duly stamped, the other or others of the same set shall, unless issued or in some manner negotiated apart from such duly stamped bill, be exempt from duty.

Foreign bills drawn and payable outside the United Kingdom, if endorsed or paid in the United Kingdom, must bear the same stamp as an inland bill up to £25, from £25 to £100 a 6d. stamp is requisite, and for every £100, or fractional part of £100 above the first £100 an additional 6d. If interest is expressed as payable on the bill it does not affect the amount of the stamp duty; for instance, a bill for £50 payable with interest at 5 per cent would require only a 6d. stamp. Cheques must bear a 2d. stamp for any amount.

ACCEPTANCE AND ENDORSEMENT. A bill should be presented for acceptance as soon as possible after receipt; this is particularly important in the case of bills drawn *after sight*. The presentation for acceptance must be during business hours; in London, it is customary to leave the bill on one day and to call for it on the next. Presentment through the post, however, is sufficient if agreed upon or if authorized by custom. The drawee usually writes or stamps *accepted* across the bill, mostly adding the name of a banker where it is payable, signs his name, and in the case of a bill after sight the date. The name without any other wording constitutes an acceptance. The acceptance may be *general*, i.e. when the drawee accepts without any qualification; or it may be *qualified*, i.e. when the acceptor makes conditions agreeing to pay only part of the amount, or changes the date when due. The holder of a bill may refuse to recognize a qualified acceptance, and treat the bill as dishonoured.

Bills are transferred by endorsement just like cheques. Any endorser is liable to pay the bill to any subsequent holder, should the acceptor not pay at maturity. If an endorser wishes to avoid responsibility, he must add *after* his name *without recourse to me* or *sans recours*. If the bill is not long enough for all the endorsements, a slip of paper called an *allonge* is attached to it.

PAYMENT. Bills, if they are not payable on demand, at sight, on presentation, or within three days, are allowed three days of grace after the expiry of the term on which they are drawn. No days of grace, however, are allowed if a bill is made payable on a fixed day, e.g. June 3 *fixed*. The bill must be presented for payment, just as for acceptance, during business hours and on the day when it is due. Should this not be done, the drawer and the endorsers are freed from liability and if the acceptor fails to pay the amount of the bill, the loss falls automatically on the holder.

NOTING AND PROTESTING. When a bill is refused acceptance or payment it is said to be dishonoured. The holder of the bill should give notice of the dishonour immediately to the drawer and each of the endorsers, otherwise he loses his claim on them for payment. It is, however, usual for the holder merely to notify the person from whom he received the bill, who in his turn notifies the preceding endorser, and so on, until all have received notice. It is usual to "note" an inland bill in addition to notifying the parties, and it can also be "protested," though it is not legally necessary to do either. A foreign bill *must* be protested, if the holder wishes to retain his rights against the drawer and the endorsers. The noting is done by a notary public, who writes on the face of the bill the facts of the refusal to accept or to pay, together with the date, the reference number in his register, his charges and initials. This is accepted as evidence that the bill has been duly presented. The protest is a certificate attesting the dishonour of the bill, generally made by a notary. In the event of a notary not being available, noting can be made by any respectable householder in the presence of two witnesses. After protesting, a *re-exchange* account is made out debiting the original drawer with expenses and loss and a re-draft is drawn on him for the amount.

ACCOMMODATION BILLS. Bills are often drawn, accepted, and put into circulation without any consideration passing between the parties. Such bills are called accommodation bills, fictitious bills, kites, and windmills; and the parties to them are accommodation parties. If no value had been given, no one is liable to pay the amount of such a bill, but if in passing from hand to hand value is eventually given, a holder for value can sue any of the signatories, even if he knows that the bill was originally an accommodation bill.

PROMISSORY NOTES. A promissory note is defined in the Bills of Exchange Act, 1882, as "an unconditional promise in writing made by one person to another, signed by the maker, engaging to pay, on demand or at a fixed or determinable future time, a sum certain in money to, or to the order of, a specified person or to bearer." Promissory notes differ from bills of exchange in so far as they are only *promises* to pay, not *orders*, and in consequence require no acceptance. They are negotiable instruments, and most of the regulations applying to bills of exchange also apply to them. The following is a common form :

£500

Manchester: May 24, 194..

Two months after date I promise to pay Messrs James & Co.
or order, the sum of five hundred pounds, for value received.

John Redford

After the first endorsement they practically become bills of exchange. A promissory note may be made by two or more makers and they may be liable thereon jointly, or jointly and severally. When a note runs "I promise

to pay " and is signed by two or more persons, it is deemed to be their joint and several note.

A well-known form of promissory note is a bank note. These notes are payable to bearer on demand, but are free from stamp duty by special Act of Parliament.

I.O.U.s. An *I.O.U.* (i.e. I owe you) is not a negotiable instrument, nor is it a promise to pay; in consequence it requires no stamp. It is only a valuable evidence of indebtedness. The usual form is as follows:

Cardiff: June 10, 194.

To Mr John Roberts,
I.O.U. Five Pounds.
T. Lennox.

EXERCISES FOR PRACTICE

These exercises are based on the information given in the above lesson.

1. Consider how far it is possible to use the post offices as a substitute for a bank in ordinary business transactions.
2. What is a bill of exchange? Make out a bill for £350 drawn by J. Ellis, Hope Street, Manchester, at three months on T. J. Wilkinson, Green Street, Liverpool, accepted by the latter payable at the Greenland Bank, Liverpool. The date of the bill is February 17, 1945. Show the stamp duty and the due date.
3. What is meant by "noting and protesting" a bill of exchange?
4. Distinguish a bill of exchange from a promissory note.

LESSON TEN

ENGLISH BANKING SYSTEM

BANKING in England cannot claim such antiquity as is the case on the Continent where certain banks, notably those of Genoa, Venice, Amsterdam and Stockholm, were flourishing institutions when the Bank of England was established in 1694. English banking originated in the activities of certain financial middlemen, the most important of whom were brokers and scriveners. Banking on lines similar to modern practice appears to have originated with the goldsmiths, who were the first bankers to use the promissory note. In the first instance this took the form of a receipt for coin actually deposited, but later it represented a loan which was not covered by any deposit. Further, the goldsmith banker soon required a certain notice to be given before deposits were withdrawn, thus giving rise to a type of "deposit account."

No complete parallel to the English banking system is to be found in any

other country, for whilst in Germany there are four outstandingly large banks which may be compared with the five largest English banks, the method of branch banking has not been developed so extensively as here. At most, the English system is in the hands of some twenty concerns of which the "Big Five" are outstanding in every respect. Before the Second World War they controlled over 80 per cent of the number of branches, over 84 per cent of the total of deposits, and over 85 per cent of the total advances of all joint stock banks.

ADVANTAGES OF AMALGAMATION. The modern tendency for banks to amalgamate is largely the result of certain advantages, which may be enumerated as follows :

1. Facility for control of banking as a whole when the business is in few hands.

2. Concerted action in times of emergency.

3. Greater economy, increased efficiency, improved organization, sounder methods, and greater uniformity.

4. National efficiency and productive capacity are increased, capital is cheapened and is provided where required.

5. Tendency to greater security when resources are well managed, dividends well regulated, and accounts are made public and subject to searching criticism.

6. Larger funds, world-wide connexion and information.

DISADVANTAGES OF AMALGAMATION. On the other hand bank amalgamation has led to certain disadvantages, viz :

1. Disappearance of the personal element in banking.

2. Absence of local interest and of specialized knowledge of local occupations, industries, customs and prejudices.

3. Danger of monopoly and its attendant evils.

4. Organization may become stereotyped and cumbersome.

5. Reduction of the total reserve held by the banks.

Functions of a Banker

The work of a bank consists chiefly of the following operations :

Receipt of Deposits. Money may be deposited on current account on the understanding that the depositor may withdraw the whole or part of the amount at any time without notice. The bank grants no interest as a rule, but makes no charge for working the account provided that the customer maintains a minimum balance. Money is also taken on deposit account and in this case it is withdrawable at notice and always yields interest.

Discounting Bills. If the trader desires to increase the circulation of his capital he may issue bills of exchange by drawing on his debtors. After acceptance he hands them to the banker duly endorsed. If satisfactory, the bills are discounted and the drawer gets immediate possession of the money.

Granting Loans. A banker's loan may take the form (a) of an overdraft on current account; or (b) an advance on loan account. In the first case the banker allows the customer to overdraw his current account up to a specified limit and charges him interest on the amount overdrawn. In the second case, the full amount of the loan is entered to the credit of current account and the customer is debited in a separate loan account and interest is charged

on the full balance of the loan account, whether all the money is used or not.

Collection of Debts. The trader may utilize the services of the banker in the collection of his outstanding debts, especially in the case of customers residing abroad. For this purpose the bank may have a variety of means at its disposal; as a rule it avails itself of the services of its correspondents, or the customer may draw a bill of exchange upon the debtor and hand it into the bank for collection.

Custody of Valuables. Clients may find it useful to entrust documents and valuable articles of property for safe custody in the special storerooms of the bank.

Acting as Agent for Customers in transactions such as the following :—

(a) Issuing letters of credit, circular notes and travellers' cheques; (b) collecting and paying coupons and dividends; (c) transacting stock exchange and foreign exchange business; (d) acting in such capacities as trustee and executor; (e) acting as a clearing agent, London agent, or correspondent of other banks.

Bank Balance Sheet

The functions of a banker as a borrower and lender may best be seen from a careful analysis of the balance sheet of a joint stock bank. This may be summarized as follows :

Liabilities	Assets
1. Paid up capital.	1. Cash in hand.
2. The reserve fund.	2. Cash at the Bank of England.
3. Dividend payable.	3. Money at call and short notice.
4. Balance of profit and loss account.	4. Investments.
5. Current, deposit and other accounts.	5. Bills discounted.
6. Acceptances.	6. Advances to customers.
	7. Liabilities of customers on acceptances.
	8. Bank premises.
	9. Shares in affiliated banks.

The Bank of England

The Bank of England, founded in 1694, is the pivot of the money market. Its position as the holder of the nation's ultimate cash reserve gives it a pre-eminent importance, and enables it to exercise a great influence on the rates of interest charged on the market and in the country generally for loans of money. The functions performed by the Bank in controlling credit and by the regulation of rates in the money market are those of a central bank. The growth

of the principle of central banking has been an important development of recent years.

Before the second World War the general principle that the control of credit should be centralized in the hands of a single institution, which should form the focus of the money market, was well established in England and in several continental countries. But owing to the urgent necessity for a strong guiding hand in monetary matters, the principle has now been greatly extended and is now adopted in practically all important commercial countries.

Functions of the Bank of England

These may be summarized as follows :

1. To safeguard the ultimate reserve of gold in England.
2. To look after the English national debt and the note issues.
3. To act as the ultimate adjuster of debts and credits, payments and receipts, by means of the clearing-house.
4. To act as agent in passing bullion into the Mint.
5. To keep the government accounts.
6. To pay the dividends quarterly on the national debt.
7. To be the banker of all the chief joint stock banks and also for private customers.

The principal function of the Bank is the regulation of credit, which is achieved by two methods known respectively as the discount policy and the open market policy.

Discount Policy. When the demands for credit in the form of loans and bills for discount are unusually heavy, and the bank considers, not only that it is desirable that credit expansion should be curtailed, but that its own reserves should not be further depleted, it raises its official minimum rate of discount, i.e. the bank rate. Provided money is not unduly plentiful, in a well organized market this will result in the raising of all other money rates, thus checking the demand for loans and providing an incentive to increased deposits and strengthened reserves.

Open Market Policy. In support of the discount policy, or as an alternative to it, the central bank may regulate the supply of money and credit in the market by buying or selling securities. Thus, if the market does not respond to an increase in bank rate, the central bank, by selling some of its investments, thereby reducing the supplies of money in the market, may force the other members of the market to raise their rates. Similarly, a shortage of money in the market may be relieved by the purchase of securities by the central bank.

The Bank Return

This return, a copy of which is shown on the following page, has been termed the barometer of the money market. It is issued by the Bank every week and gives a significant indication of the state of monetary conditions generally.

The form of the return, which had remained in its original state since 1844, was changed in November, 1928, when the provisions of the Currency and Bank Notes Act, 1928, came into operation.

The following brief notes explain the significance of the various items :

BASIC COMMERCIAL KNOWLEDGE

BANK OF ENGLAND RETURN

20th March, 1946.

ISSUE DEPARTMENT.

	£		£
Notes Issued :		Govt. Debt	11,015,100
In Circulation	1,325,497,070	Other Govt.	
In Banking Department	74,750,763	Securities	1,388,258,562
		Other Securities	716,354
		Silver Coin	9,984
			<hr/>
		Fiduciary Issue	1,400,000,000
		Gold Coin and	
		Bullion	247,833
			<hr/>
	1,400,247,833		1,400,247,833

BANKING DEPARTMENT.

	£		£
Capital	14,553,000	Govt. Securities	215,320,211
Rest	3,951,328	Other Securities	35,873,231
		Notes	74,750,763
		Gold and Silver	
Public Deposits*	12,040,159	Coin	956,006
Other Deposits	296,355,724		
Seven-day and other Bills			
	<hr/>		<hr/>
	£326,900,211		£326,900,211

* Including Exchequer, Savings Banks, Commissioners of National Debt and Dividend Accounts.

Issue Department

Notes Issued. This item on the left hand side of the statement of the issue department represents the total amount of notes issued by the Bank. Separate figures are given for the notes actually in circulation and those held by the banking department.

Government Debt. This is the debt owing by the government to the Bank and is not represented by either stock or securities. This figure has remained unchanged since 1833.

Other Government Securities. This figure represents part of the paper backing behind the fiduciary issue and in all probability consists of treasury bills.

Other Securities. These include ordinary commercial bills which the Bank is permitted to hold under the provisions of the Act.

Silver Coin. The Bank may hold silver coin to an amount not exceeding

£5,500,000 as security for the fiduciary issue. It must be noted that this does not constitute part of the metallic backing of the note issue.

The last four items together make up the amount of notes known as the fiduciary issue, which the Bank is legally empowered to issue without a gold backing.

Gold Coin and Bullion. This figure gives the amount of gold coin and bullion held in the vaults of the Bank as a cash reserve against its circulation of notes. It represents virtually the whole gold reserve of the nation.

Banking Department

Proprietors' Capital. This represents the amount invested in the Bank by its shareholders, for it must be remembered that the Bank of England, although performing the functions of a central bank, is, until the advent of nationalization, a private organization run by its management for the benefit of its owners.

Rest. This term simply means surplus and, like the reserve fund of a joint stock bank, represents an accumulation of undivided profits maintained to meet contingencies. The rest also includes the balance of the Bank's profit and loss account out of which its dividends are paid from time to time, but the total of the rest is never permitted to fall below three millions.

Other Deposits. This total is now separated into "bankers'" and "other accounts." Bankers' balances constitute the largest part of this item and represent that part of the cash balances of the outside banks left with the central bank.

Public Deposits. This total, as is explained in the footnote to the return, represents sums standing to the credit of various government departments.

Government Securities. This includes the Bank's investments in government stocks and in exchequer and treasury bills, in addition to its loans to the government on "ways and means advances" and "deficiency bills," both of which are methods of borrowing resorted to by government departments to tide over temporary shortages pending the receipt of tax payments.

Other Securities. This is separated into "discounts and advances" and "securities" and represents the investments of the Bank in securities other than government securities, together with discounts and loans to the money market.

Notes, Gold and Silver Coin. The last two items together represent what is known as the Bank of England reserve, i.e. the total amount of liquid funds which the Bank has available to satisfy the immediate requirements of its customers.

EXERCISES FOR PRACTICE

These exercises are based on the information given in the above lesson.

1. Mention four different kinds of banking services or facilities which English banks are able to offer their clients. Explain briefly in each case how the facility is helpful to the trader.
2. Describe the chief functions of the Bank of England.
3. What is the relation of the English joint stock banks to the Bank of England?
4. Explain the items which appear in the Bank of England weekly return

INLAND TRANSPORT

ADEQUATE means of transport and communication are essential to the development of industry and commerce; and of all the institutions which go to form the modern economic system, transport is one of the most fundamental. To the industrial community dependent for the essentials of its material welfare on external exchange, the efficiency and cheapness of transport by land, sea and air are vital conditions of prosperity.

Transport may be considered from two points of view—it can be regarded primarily as an industry, or primarily as a service essential to the carrying on of every kind of industry and commerce. Regarding transport as an industry, its importance in the economic life of the country can readily be seen when it is observed that it employs more than 1,500,000 people, or about 8 per cent of the whole employed population of Great Britain. This figure takes no account of the numerous persons indirectly dependent on transport such as those engaged in building and repairing ships and vehicles.

Forms of Inland Transport

The development of modern transport may be said to have commenced with the so called Industrial Revolution and to cover a period of less than 200 years. Prior to the middle of the eighteenth century, Great Britain was primarily an agricultural community. There were no great industries; manufacture was largely local and called for no extensive goods transport; travelling was limited; the road system was not extensive and the roads were poor.

The Industrial Revolution, coinciding with and largely the result of the invention and development of the steam engine, transformed Great Britain in a relatively short time from an agricultural country into the chief manufacturing centre of the world, for which position her coal and iron mines gave her peculiar advantages. These changes created an urgent demand for transport to carry raw materials and coal to centres of manufacture and to take the finished goods to ports for shipment overseas (Fig. 12).

This demand was met by the *canal system*; the first ship canal was opened in 1758—the Bridgewater Canal from Worsley to Manchester—and during the next fifty years an extensive network of canals grew all over the country. Meeting the demand for the transport of heavy goods and faced with no serious competition, the canals achieved and maintained a remarkable degree of prosperity, until the advent of the *railways* caused a rapid decline. The first railway was built in 1825 and was followed by developments throughout the country. The speedier method of transport and its adaptability to passenger as well as goods traffic gave a great advantage to the railways, and the canals fell into a state of depression from which they have in general never recovered. The railways continued to enjoy almost a monopoly until the end of the first World War, when they were in turn challenged by *motor road transport*. The development of the internal-combustion engine and its application to vehicles and the improvements in the construction of roads to fit them for faster traffic, led to the rapid growth of motor road transport. While this has not displaced the railways in the same sense that the latter

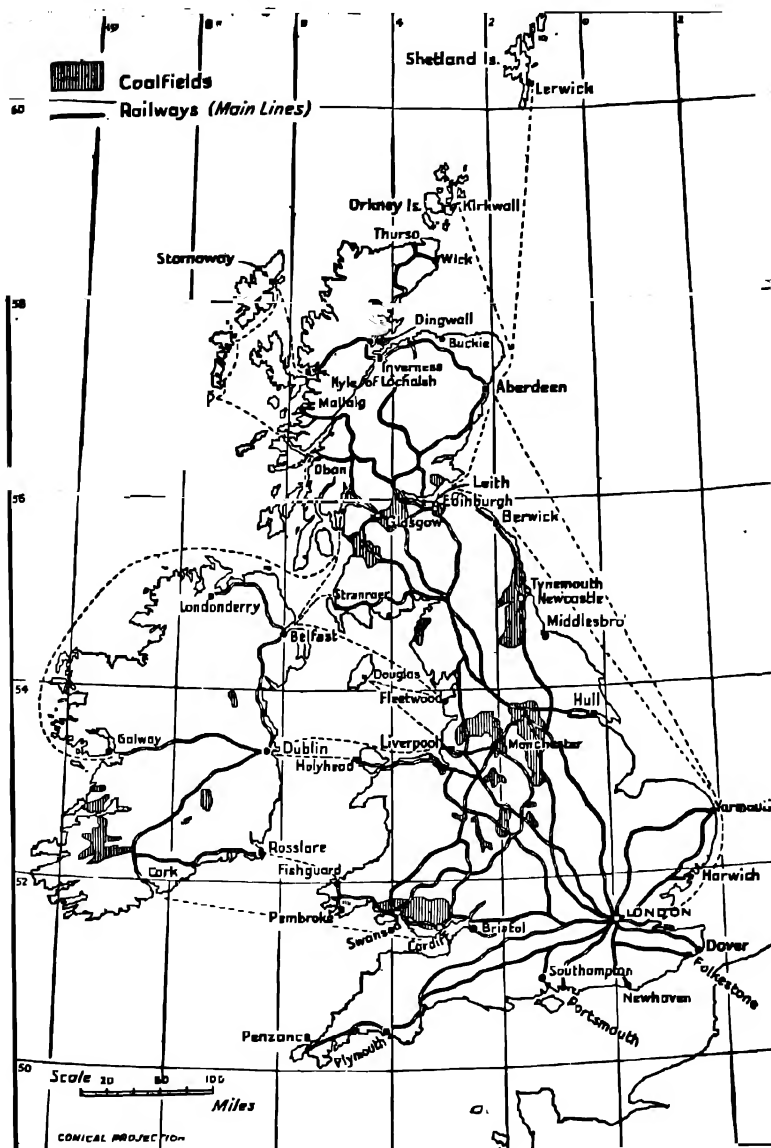


Fig. 12. The above map indicates the location of coalfields in the British Isles, and the railway system which was developed as a result of the urgent demand for transport facilities created by the Industrial Revolution.

displaced the canals, it has undoubtedly helped to render their financial position more difficult.

The main forms of inland transport, together with the chief causes of their importance, are shown in the diagram (Fig. 13).

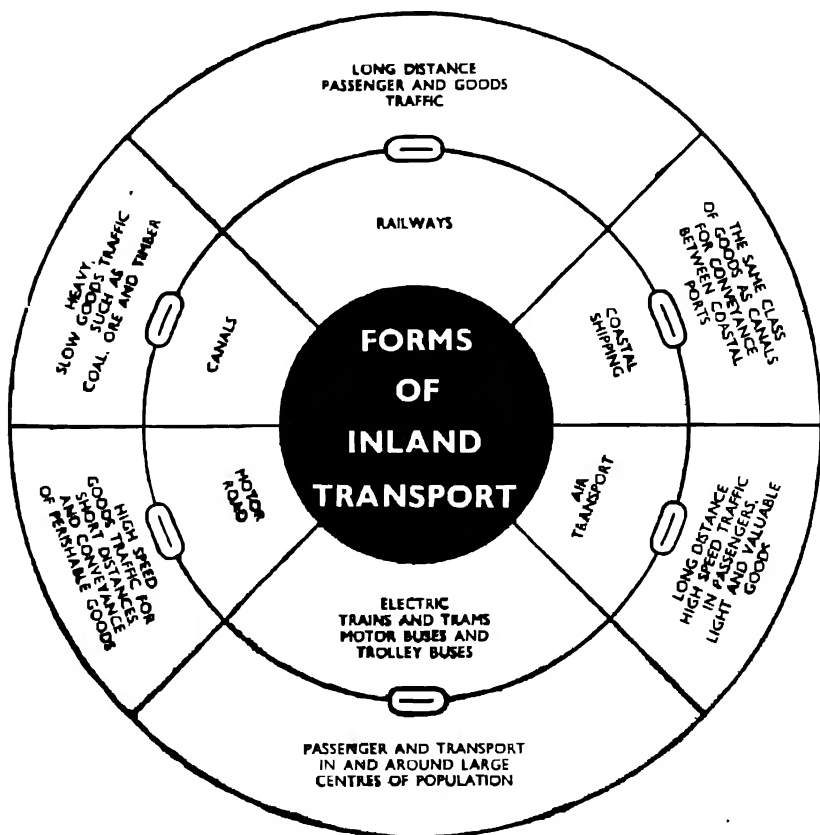


Fig. 13. The six main forms of inland transport today are given in the above chart, together with the types of traffic for which they cater.

Transport by Air

Air transport is suitable for the carriage of mail, small expensive articles and passengers.

By 1937 a plan was approved to connect all parts of the British Empire by air routes carrying first class mail at ordinary rates.

The British Overseas Airways Corporation, formed in 1940, took over the work and routes established by Imperial Airways Ltd. and British Airways Ltd. In addition to Empire communications, the former had a service from London to Switzerland and the latter had services to Scandinavia,

Central Europe and U.S.S.R. Air transport in the future will be shared between land and sea planes ; the latter providing greater comfort for long distances and greater safety in the event of forced landings.

Factors in Transport Rates

The following are the main considerations to be taken into account in order to determine the transport rate :

Exchange Value. The value of the article in question is a very large factor in the determination of its place in the scale of classification. Thus, silk will bear a higher rate than calico, gold a higher rate than silver, and manganese a higher rate than iron ore.

Cost of Handling. Large and awkwardly shaped articles will rank at high rates ; the same applies to tables, chairs and similar articles whose bulk is out of proportion to their weight.

Volume and Weight. The nearer the tonnage or volume of a commodity approaches the wagon capacity, the cheaper it is to transport. Small consignments involve increased cost to the railways, and there is thus a justification for the higher charge.

Perishable Goods. Speed and regularity in transit and delivery are of prime importance in the case of perishable articles such as fish, fruit and meat, as serious losses may be sustained on goods which arrive late for market. In some countries, higher rates are charged for rapid transport, though in Britain higher charges are made only in the case of goods sent by passenger train.

Method of Packing. The consideration of packing is an important one and many articles are placed in two or three classes varying according to their packing. Olive oil, for instance, in casks or in iron drums is in class one ; otherwise it is in class three.

Owner's or Company's Risk. Reduced rates are quoted in many cases where traders agree to relieve the railway from liability for damage during transit. In a sense, the lower rate represents the deduction of an insurance premium. Such rates are applicable to commodities which are easily damaged if not properly packed, and also to certain articles which are not likely to suffer damage at all.

Principles of Rate Fixing

In the fixing of railway rates there has been laid down in successive Acts of Parliament a number of principles which underlie all our rate-making arrangements, viz. :

Adequate Facilities. The railways of the country must provide adequate travelling and transport facilities for the whole community.

Equality of Treatment. All charges made upon traffic must be reasonable and be impartially and fairly applied between one trader and another. There must be no undue preference.

Publicity. There must be full publicity of facilities and of charges. A complete schedule of rates in operation from each station must be published and be accessible to inquiring traders. There must be no secret rebates.

Reasonableness. All rates and charges are assumed to be reasonable, and it is provided by enactment that a railway company must provide reasonable facilities and services. Its rates and charges must therefore be reasonable.

Charging what the Traffic will Bear

It is evident that no railway should continue to carry, over a long period of time, freight, the revenue from which will not cover the direct prime costs of its own movement. Thus, the cost of service rendered, or in other words, what a railway can afford to bear, does in practice fix the lower limit to any rate which a railway should quote. To induce new traffic, or to keep a factory open which would otherwise have to close down, may provide an exception to this rule. In the second of these cases it is possible that any loss involved by quoting a special low rate for the transport of a factory's product may be offset by the profit earned in carrying to it raw materials for production.

Having indicated what fixes the lower limit of a freight rate, one may turn to the question of what fixes the higher limit. The maximum that can be charged for any service rendered is obviously the added value thereby caused. If coal is worth 15s. at the pit mouth in Nottinghamshire and will sell for no more than 25s. 6d. on the wagon at the railway coal depot in London, then if the railway company charges more than 10s. 6d. as a transport rate, coal will cease to travel in the same volume. The upper limit is, therefore, set by the increase in value given to the commodity. This has sometimes been termed "charging what the traffic will bear," but this is always liable to misinterpretation, for in practice, it is impossible for a rates expert to know what any individual traffic can bear.

Between the cost of service, which is what the railway can bear over a long period of time, and what the traffic can afford to bear, lies the normal freight rate, but even the cost per unit is variable according to the volume of traffic which passes. Theoretically, to obtain the maximum revenue, the railway will so fix rates that the tonnage figure multiplied by the rate per ton will yield a maximum. Hence the rule of rate making may be enunciated thus:

The lower limit of a rate should normally be the direct cost of moving the commodity, and the upper limit must be set by the added value given to the commodity by the transport service. Between these two limits rates should be so fixed as to yield a maximum net value.

EXERCISES FOR PRACTICE

These exercises are based on the information given in the above lesson

1. Enumerate the main types of transport in use in Great Britain to-day and bring out the special merits of each type you mention.
2. Describe briefly the principal means of transport by which goods may be distributed in this country. Which method would you adopt for the conveyance of a consignment of (a) coal, (b) vacuum cleaners, (c) cement, (d) fresh flowers, and (e) precious stones? Give the reason for your choice in each case.
3. "The means of transport must be cheap, speedy, safe and regular." Discuss the economic importance of each of these qualities to the trader and the community in the case of inland transport, and the possibility of providing that each user shall get that balance of the four qualities which he prefers.
4. Explain the meaning of the maxim "charging what the traffic will bear."

SECTION VII

COMMERCIAL GEOGRAPHY

LESSON ONE

COMMODITIES OF TRADE

COMMERCE may be defined as the exchange of commodities on a large scale. Exchange in its simplest form is direct between the producer and the consumer, but such exchange is seldom possible as commodities are rarely produced either in the form or the quantity required by the ultimate consumer. So in commerce we find middlemen such as :

Manufacturers who use raw materials to produce goods in the form in which they are demanded, e.g. cotton shirts from cotton; and buyers, merchants, transport agents, distributors, wholesale and retail traders who are all agents in the exchange between producer, manufacturer and consumer.

Two simple examples represented diagrammatically will serve to illustrate these points. (Fig. 1)

Let us now examine these three stages of commercial exchange : (a) raw materials and their production ; (b) manufacture ; (c) the means of exchange.

Raw Materials and their Production

Raw materials may be the raw materials used in manufacture, foodstuffs for industrial and commercial labour, or power for industrial machines. These various materials may be divided into the following classes :

1. *Vegetable products*, such as timber, rubber, cotton, coir (coconut fibre), hemp, wheat, which may be collected from natural vegetation or produced by cultivation.

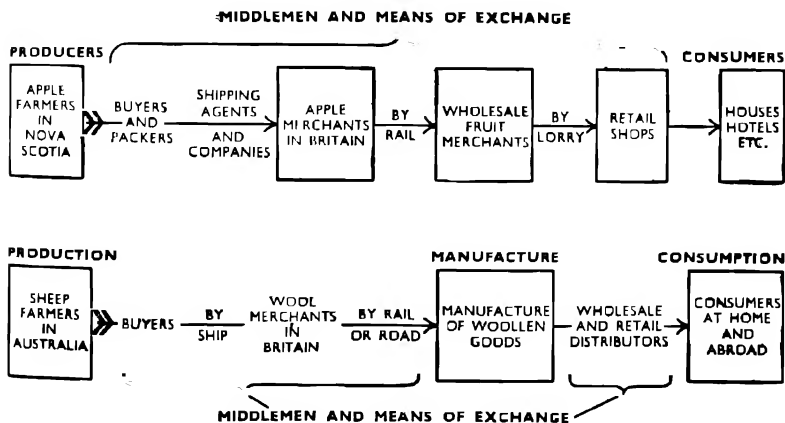


Fig. 1. Two examples of middlemen in commerce, and the means of exchange. Above : Apples from Nova Scotia to Britain. Below : Wool from Australia.

2. *Animal and fish products*, such as wool, hides, skins, meat, alpaca, horn, fish—the production of which involves a range of human activities from trapping and fishing to scientific and intensive cattle and sheep breeding.

3. *Mineral products*, which include raw materials of manufacture such as tin, copper, iron and sources of industrial power such as petroleum and coal.

Manufacture

Manufactured goods may be produced on small-scale systems as domestic industries or by large-scale methods in factories, but in both there are certain essential demands: supplies of necessary raw materials; supplies of power for the machines; supplies of labour to provide the necessary skills and organization.

The Means of Exchange

The exchange of commercial commodities involves the transport of raw materials to the industrial areas and of finished manufactured goods to the consumer—the market.

Means of transport may be classified as follows:

1. Land transport ranging from human porters, animal transport by camel or mules, to wheeled road traffic of carts and lorries, to large-scale transport by railway.

2. Water transport by canal barge, river and ocean-going ships.

3. Air transport, which at present is restricted by cost to goods high in price and value, and small in bulk.

LESSON TWO

MAJOR GEOGRAPHICAL FACTORS

(1) *Climate*

THE production of commercial commodities either as raw materials or as manufactured goods, and their exchange between producer and consumer, are determined very largely by geographical factors which we must now examine.

Climate is the average condition of the weather, of which temperature and rainfall are the chief factors, though minor features such as cloudiness and sunshine may also in some circumstances be important.

Temperature. The principal considerations of temperature must be:—the average temperature; the annual range of temperature, i.e. the difference between the average maximum and minimum temperatures experienced during the year.

But first we must examine the various factors affecting temperature conditions.

1. *Latitude.* On an average, temperature decreases from the equator to the poles. This is due to the fact that towards the poles the sun's rays fall more obliquely on the earth's surface and therefore not only cover a larger area and have their heat more widely distributed, but also pass through a greater volume of atmosphere by which their energy and heat are absorbed to a

greater extent. Reference to Fig. 2 will illustrate these two points. Note in higher latitudes as compared with the equator region the area *a* on the earth's surface, is greater than *b*, and the volume of atmosphere *C* is greater than *D*

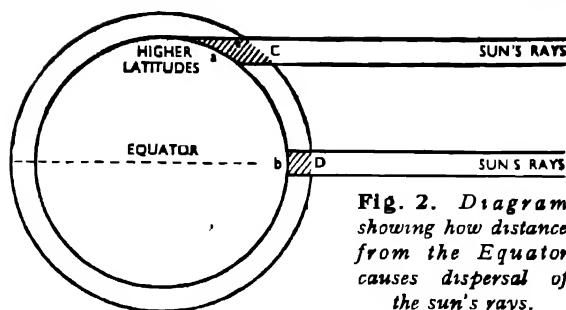


Fig. 2. Diagram showing how distance from the Equator causes dispersal of the sun's rays.

2. *Altitude.* Temperature usually decreases with height, roughly at the rate of 1° F. for every 300 feet. The following figures for average temperatures at Mombasa and Nairobi illustrate this point :

Place	Lat.	Height above Sea Level	Average Temperature	
			January	July
MOMBASA . .	4° S	50 ft.	79°	75°
NAIROBI . .	1° S	5,495 ft.	66°	61°

3 *Distance from the Sea.* Land surfaces heat more quickly than the sea, therefore in summer places near the sea are cooled by breezes from the cooler sea and their summer temperatures are modified, while places remote from these cooling sea breezes will be hotter.

In winter the land loses its heat more rapidly than the sea, and inland places are colder than places near the sea, where temperatures will be kept higher by the warm sea breezes.

A comparison of the summer and winter temperatures of Valentia (S. W. Ireland) and of Tomsk in Central Siberia will illustrate the force of this factor.

Place	Latitude	Summer	Winter
VALENTIA	52° N	59° F	45° F
TOMSK	56° N	66° F	-3° F

4. *Prevailing Winds and Ocean Currents.* These two factors are closely related as ocean currents affect the temperatures of winds flowing over them, and their effect on land temperatures will depend on the direction of the wind, i.e. on-shore winds in regions of warm currents will raise temperatures and in regions of cold currents will decrease temperatures. In seasons when the winds are off-shore the effect of ocean currents on land temperatures will be small.

Reference to wind systems and certain ocean currents will be made when dealing with regions in detail. The map (Fig. 3) should be studied and referred to as the text is read.

Cause of Rainfall

Rainfall results from the cooling of air saturated with water vapour, and this cooling may be caused in three main ways.

Relief. Winds are forced upwards by mountains into higher altitudes, reach colder air, and the moisture in the air condenses and falls in the form of rain.

Convection. In regions such as the equatorial lands or the centres of land masses during the summer, the high temperatures cause air currents to rise into colder altitudes where condensation takes place and rain again results.

Cyclones are areas of low pressure which occur in the westerly wind belt of the temperate zones (Fig. 3). Winds blow in from the higher pressure areas on the edges towards the lower pressure in the centre, where the air rises, condensation follows and rain results.

The importance of rainfall to commercial activity will depend on the following two factors :

1. The amount of rain, which in any area will depend on temperatures, proximity to the sea, the direction of prevailing winds and relief.
2. The seasonal distribution. This may be throughout the year, or mainly in summer, or mainly in winter, according to the prevailing or seasonal winds and the temperature conditions.

Effect of Climate on Commerce

Climate affects the production of raw materials, except those of mineral origin, types of manufactures and where and under what conditions they are made, and the methods and routes which are employed to transport commodities.

Raw Material Production. The forests, grasslands and cultivated products of the world vary in character according to climate conditions such as temperature and rainfall conditions, the length of the cold season, the period of drought and soil conditions, but broadly we may divide them into two main classes : (a) tropical ; (b) temperate.

The table on the following page summarizes the chief commodities associated with each type.

Location of Industries. In some industries the areas of manufacture have been determined mainly by climate. The need of a damp atmosphere for the spinning process of cotton manufacture provides an illustration and accounts for the location of the industry in Lancashire, the region around Glasgow (Paisley), and in Bombay, on the wet western seaboard of India.

		<i>Tropical</i>		<i>Temperate</i>	
FORESTS	TYPES	Equatorial	Monsoon	Deciduous	Coniferous
	PRODUCTS	Timbers	Rubbers	Hard timbers Oak, Beech	Soft timbers Pine, Fir
GRASSLANDS	TYPES	Savannas		Prairies, Pampas, Steppes	
	PRODUCTS	(a) Cattle products : Hides, Skins (b) Crops such as Cotton, Maize, Coffee		(a) Large scale pastoral industries (b) Cereals, especially Wheat	
CULTIVATED CROPS	CEREALS	Rice, Millet		Maize Wheat, Barley, Oats, Rye	
	RAW MATERIALS	Jute, Hemp		Tobacco Flax, Silk Cotton	
	FRUITS	Bananas, Pineapples		Grapes, Currants, Lemons, Apples, Pears, Plums	
	OTHER FOODSTUFF	Tea, Coffee, Sugar		Sugar beet, Potatoes, Hops	

The effect of climate on commerce is illustrated in the above table, which compares the chief products of the tropical zone with those of the temperate zone. Mineral products are not included as they are not related to climate.

Types of Manufacture. The market demands for such manufactures as clothing will be regulated by climate conditions: for example the need for light cotton clothing in the tropics and of warm woollens in the colder regions will explain the types of manufactures carried on in and for these markets—compare the cotton industry of Bombay and the woollen industry of the Tweed valley.

Labour. Climatic conditions affect materially the standard of human effort and it is in temperate regions that it reaches its maximum efficacy. It is here that such vast industrial areas as those of Great Britain, Western Europe, Canada and the United States are situated.

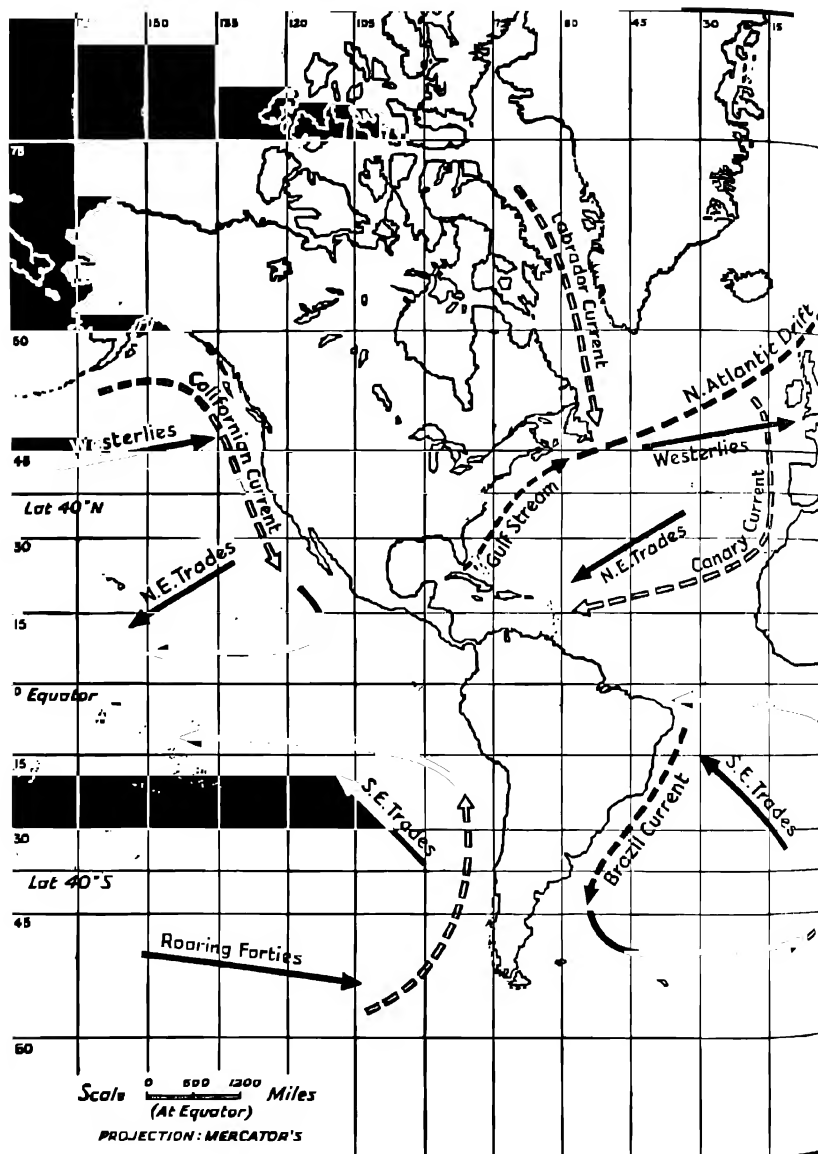
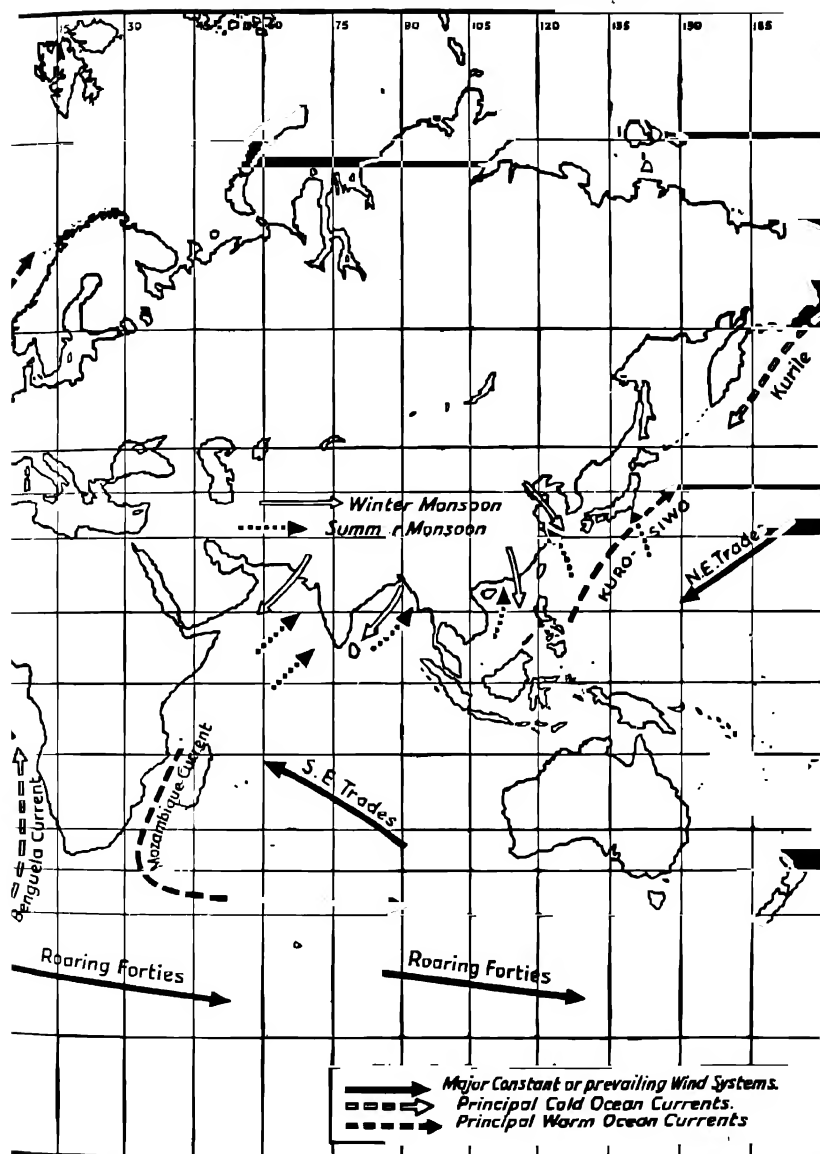


Fig. 3. Outline map of the world showing the major wind systems and ocean currents. These two factors are closely related to each other, as ocean currents affect



the temperature of winds flowing over them. Their effect on land temperatures depends on the prevailing direction of the wind, i.e. whether on-shore or off-shore.

Transport. The building of railways and the use of steamships make it possible to defeat many of the restrictions which wind, frost and rain might impose, but frost, ice and snowfalls may either limit or demand special methods of transport. Two examples only must suffice to illustrate these points.

The frozen St. Lawrence makes Montreal inaccessible for about four months in the year and makes it necessary for ships to use Halifax in Nova Scotia which is ice free all the year. Sledges for Canadian timber and ice-breakers in the North Atlantic are illustrations of special means employed.

LESSON THREE

MAJOR GEOGRAPHICAL FACTORS

(2) *Relief and Structure*

IN this lesson we shall examine : (a) the structure of the earth's crust and its yield of commercial commodities ; (b) the main types of the earth's surface features and the control they exert on human activity.

(a) *Structure of the Earth's Crust*

The earth's crust is composed of rocks, a term used to include the surface soils formed by the disintegration and weathering of other surface materials.

Soils vary in their mode of formation and in their fertility. Alluvium, the name given to river-borne soil, is usually of exceptional fertility and accounts for the intensive agriculture of the Ganges Plain, of the river plains of China, Iraq and other great river plains. Other examples of soils of high fertility are loess, a wind-borne soil, which is brought by winds from the deserts of Central Asia and covers large areas in North China, and soils such as the black cotton soil of the Deccan of India, formed by the decomposition of volcanic lavas.

Some soils, such as sandy soils, are valuable because they are light and easily worked, while heavy impervious soils, such as clays, which retain their moisture near the surface, are especially valuable in regions of light rainfall and for the production of certain types of crops.

Rocks. The main structure of the earth's crust, like soils, varies according to the mode of formation. The following brief summary indicates the methods of formation of the principal types and the materials which they provide for various economic and commercial purposes.

Sedimentary Rocks are the stratified rocks which have been formed by the deposition of the materials in layers or strata.

Deposition of materials derived from the land is as follows : sandstones, shales ; rocks formed by sea organisms, chalks, limestones ; rocks formed of vegetable material, coal.

Igneous Rocks are the rocks formed by cooling of molten material which has its origin beneath the earth's crust. In some cases, such as basalt, the molten material is thrown out by volcanic action and cools rapidly, while in others it cools slowly beneath the surface to form plutonic rocks, of which granite is the best and most common example.

Metamorphic Rocks are sedimentary or igneous rocks which have changed

their original form as the result of heat or pressure. Two examples of materials so formed and of commercial value are marble, formed from chalk and limestones, and slate, formed from clays and shales.

(b) Surface Features

Plains, the large expanses of nearly level land, are not all of the same type but for the most part exhibit sufficient common features to allow us to generalize about their commercial development.

Plain areas tend to become the regions of greatest economic and commercial development and, in consequence, regions of densest population. The main reasons are :

1. The depth and fertility of the soils making them important agricultural lands.

2. Transport is easy ; roads and railways are easily constructed and, with natural navigable rivers such as the Mississippi as commercial highways, exchange of goods is greatly facilitated.

Plateaux are stretches or blocks of highlands usually of fairly uniform height. If we glance at a map of the world, we shall find many obvious well-known examples : the veldt of South Africa ; the Deccan of India ; the Brazil Plateau and so on. Commercially these areas have two major values :

1. Mineral production : the gold of Western Australia ; the gold and diamonds of South Africa ; the manganese of Brazil.

2. In tropical regions, as a result of the lower temperatures, plateau areas are suitable for European settlement and with improved transport facilities are becoming areas of considerable commercial value : Nigeria, Kenya, the coffee lands of Brazil, are examples of such areas.

Mountains differ both in their mode of formation and in their character. The major mountain systems of the world, the great Cordilleran range, including the Rockies of North America and the Andes of South America ; the great Old World system extending from the Pyrenees through the Alps and on to the Himalayas of India and beyond ; the Great Dividing Range of Australia and others, are all the result of the wrinkling of the strata of the earth's crust and are called fold mountains.

Commercially, mountains are for the most part areas of unproductiveness because of their thin poor soils, and are barriers to communications, not only on account of their ruggedness and height, but also on account of their winter snows. Against this the great mountain systems are important for :

1. Mineral production : copper of the Great Dividing Range of Eastern Australia ; the tin of Bolivia ; the gold, copper, lead and silver of the Rockies are examples.

2. Lumbering : the soft timbers of the coniferous forests of Scandinavia and the hard timbers of Central America are examples of their products.

3. The supply of water or hydro-electric power developed from the swift mountain streams : Norway, Switzerland, the Fall Line of the Appalachians, N. Italy and Japan are all areas where such power supplies are utilized.

4. Special human and commercial activities, of which the cattle rearing of Switzerland in the Alpine pastures and the terrace system of crop cultivation in China and Japan are illustrations.

MAJOR GEOGRAPHICAL FACTORS

(3) *Minerals*

UNDER the name mineral we include any natural substance that forms part of the earth's crust. The importance of minerals as a source of metals for modern industry is obvious, when we consider the enormous amount of machinery required for transport services by land, sea and air, for agriculture, for manufacturing industries, and for the generation of power. Furthermore, minerals are required in vast quantities for the preparation of many of the fertilizers used in scientific agriculture, and for a large number of chemicals and products of the chemical industry.

The production of metals from minerals is the result of complicated chemical or electrical processes, and it must be realized that in the preparation of metals for special purposes several individual metals may be alloyed in varying quantities, according to the properties required in the finished product. Thus, in the preparation of steel the chief component is iron, but varying combinations and quantities of manganese, chromium, tungsten, and vanadium, may be added to produce a variety of steels of different types and for many purposes.

We shall therefore proceed to discuss some of the commoner metals, their occurrence as minerals, their preparation and uses, but an exhaustive list is obviously impossible in a short space.

Iron is the most indispensable of all metals and, next to aluminium, its ores are the most widely occurring, but four minerals only are important as sources of the metal. They are

1. Magnetite, containing up to 72 per cent iron, e.g. the ores of North Sweden
2. Hematite containing up to 70 per cent iron, e.g. the ores near Lake Superior in U.S.A.
3. Limonite, containing up to 60 per cent iron, e.g. the ores found in Alsace Lorraine
4. Siderite, containing up to 48 per cent iron, e.g. ores found in the Jurassic rocks of England

The world's chief producers of iron ore are U.S.A., U.S.S.R., France, Sweden, Germany, Austria and the United Kingdom. Between them they account for 75 per cent of the world's supplies. The table at the top of the next page shows the relative volume of production in each.

Other producers are Australia, Newfoundland, India, Spain, North Africa, Luxemburg, Manchuria, Malaya, Norway.

Steel The production of pig iron from iron ore requires limestone and coke, in addition to ore. Countries like Sweden, Spain, North Africa, Newfoundland and Norway, which have no coal deposits from which to produce coke for smelting, are exporters of ore. Others, like Britain and Germany, with vast supplies of coal, but with domestic ores of low iron content, import the highest grade ores from Sweden and Spain.

Pig iron is converted into steel in an open hearth furnace or in a Bessemer converter. The addition of small percentages of other metals, usually

Country	Area produced	Per cent of world production
U.S.A.	Minnesota—Mesabi Range Alabama—Birmingham district	20
U.S.S.R.	Ukraine—Krivoi Rog Urals—Magnitogorsk	20
FRANCE	Lorraine	14
SWEDEN	Kiruna-Gellivare Dannemora	11
GERMANY AND AUSTRIA	Sieg Valley Styria	5
UNITED KINGDOM .	Lanarkshire Cumberland North Yorkshire, Lincolnshire Northants, and Oxfordshire	5

Table showing chief producers of iron ore, with percentages of total production.

effected in an electric furnace, gives the steel special properties such as hardness, anti-corrosion, and tensile strength. By this means many varieties of steel are produced.

The principal steel producing countries, in relation to total world production, are shown diagrammatically below.

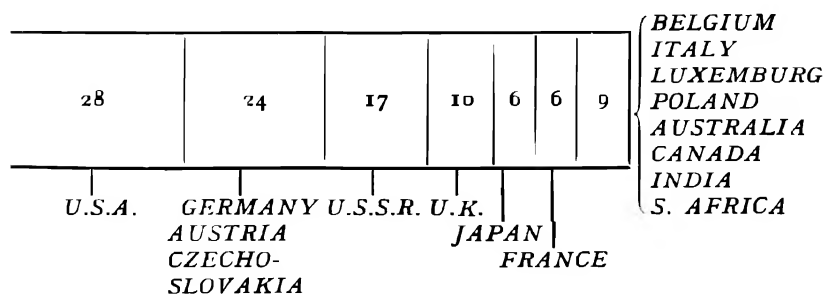


Fig. 4. Diagram showing the chief steel producing countries. The figures represent percentages of total world production in 1938.

Metals used in the preparation of special steels are given below :

<i>Metals</i>	<i>Purpose</i>	<i>Principal sources of metal ores</i>
Manganese	Used in varying quantities and combinations to produce qualities of hardness, strength, toughness, as well as stainless, magnetic and anti-corrosion steels.	U.S.S.R., India, Gold Coast, South Africa
Nickel		Canada, New Caledonia, Finland
Cobalt		Central Africa, Morocco, Canada, Burma
Tungsten		China, Burma, U.S.A., Bolivia, Portugal
Molybdenum		U.S.A., Mexico, Norway
Vanadium		Peru, U.S.A., S.W. Africa, N. Rhodesia, Mexico
Chromium		U.S.S.R., Turkey, S. Rhodesia, S. Africa, Jugoslavia, India

Aluminium is the most widely occurring metal of all, as it is a component of all clays, but almost all the aluminium of commerce is derived from the ore bauxite. The metal aluminium has several properties which have led to its widespread use in recent years, viz., its lightness, conductivity of electricity, resistance to corrosion, and its great strength when alloyed with other metals : copper, manganese, magnesium, and zinc.

The extraction of aluminium from bauxite is an electrical process, and the

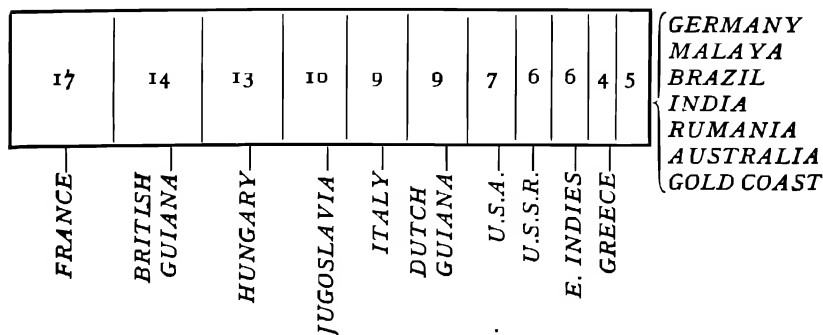


Fig. 5. Chief producers of bauxite with percentages of world production.

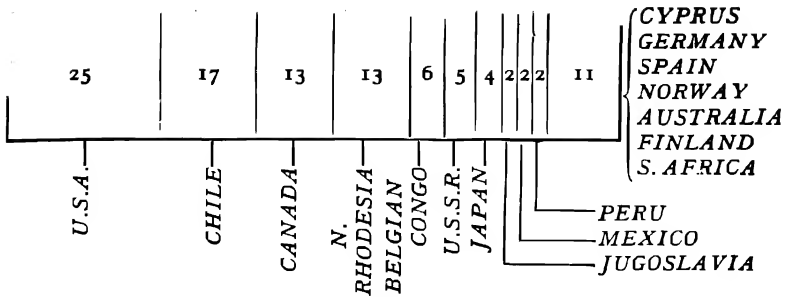


Fig. 6. Chief producers of copper with percentages of world production.

first consideration in locating plant is an abundant supply of cheap electricity. The industry is therefore carried on where hydro-electric power is available.

Fig. 5 shows the principal producers of bauxite. Lack of hydro-electric power makes it impossible for certain of the bauxite producers to extract aluminium, such as Hungary, Yugoslavia and the Guianas, whereas Germany with ample hydro-electric power is a big producer of aluminium, but from imported ores. Canada, by virtue of enormous supplies of hydro-electric power, is now the chief producer of aluminium, using bauxite from the Guianas.

Copper. By reason of its high electrical conductivity, copper finds its greatest use in the electrical industry for wiring generators and motors, for switchboards and transmission cables. It is also used in the form of alloys—brass, bronze, and duralumin. The principal producers are shown in Fig. 6.

The uses and sources of other metals are given below :

<i>Metal</i>	<i>Uses</i>	<i>Sources in order of importance</i>
Tin	Tin-plate, bronze	Malaya, E. Indies, Bolivia, Thailand, China
Lead	Electric batteries, plumbing	U.S.A., Mexico, Australia, Canada, Germany, Yugoslavia
Zinc	Galvanized sheeting, brass	U.S.A., Australia, Germany, Canada, Mexico
Mercury	Scientific instruments, detonating powders	Italy, Spain, U.S.A., Mexico
Magnesium	Aluminium alloys, incendiary purposes	U.S.S.R., Germany, U.S.A., Greece, Manchuria ; and in Great Britain from sea water

Some Other Minerals

Salt, used in vast quantities for domestic purposes, and in chemical industry for large number of vital products—glass, soap, soda, bleaching powder, etc. Chief producers : U.S.A., U.S.S.R., Germany, China, United Kingdom, France, India.

Asbestos, a fire- and heat-resisting mineral, used for insulation, packing in engines, roofing tiles and sheets. Chief producers : Canada, U.S.S.R., S. Rhodesia, S. Africa.

Mica, used as an insulating material in electrical apparatus. Producers : U.S.S.R., U.S.A., India.

Sulphur, used in preparation of sulphuric acid for the chemical industry. Native sulphur occurs in U.S.A., Italy and Japan, and sulphur is also produced from pyrites, which occurs in Spain, Japan, Norway, Italy, U.S.S.R.

Potash, used as a fertilizer and in preparation of explosives, soap, glass, etc. Chief producers : Germany, France, U.S.A., U.S.S.R.

Phosphates, chiefly used as fertilizers in the soluble form of superphosphate. Chief producers : U.S.A., U.S.S.R., North Africa, Pacific Islands (Ocean Island and Nauru).

China Clay (kaolin), used in preparation of paper, textiles, paint, rubber, and in pottery industry. Chief producers : Cornwall and Devon, U.S.A., Czechoslovakia, Japan, Germany.

LESSON FIVE**MAJOR GEOGRAPHICAL FACTORS****(4) Power**

THE three principal sources of power are coal, oil and falling water. The last has been utilized more and more in recent years for the generation of hydro-electric power, and in consequence the relative importance of coal for power purposes has declined.

Not only do modern factories rely on power, but the whole elaborate transport system depends on it too, and in recent times many electro-chemical processes have been evolved which rely on cheap hydro-electric power, e.g. the extraction of aluminium from bauxite, and the manufacture of artificial fertilizers by the use of atmospheric nitrogen.

An interesting and recent innovation has been the use of wind power on a large scale in the Arctic regions of Soviet Asia. Here the strong arctic winds are harnessed to generate electricity for lighting, heating, and for agricultural purposes, making possible permanent settlements in these inhospitable areas.

Coal includes anthracite (containing over 90 per cent carbon), bituminous coal (containing 85–90 per cent carbon, but more coal-tar and gas than anthracite), and lignite (i.e. brown coal of low carbon content.)

Not only is coal an important source of power, but also it is the source of a vast range of products including gas, chemicals, fertilizers, perfumes, dyes, etc. After these have been removed by the heating of coal in ovens, the coke remaining is used for heating purposes and also as a reducing agent in the smelting of iron ore, as was shown in the preceding lesson.

Reference to Fig. 7 will show some of the products derived from coal :

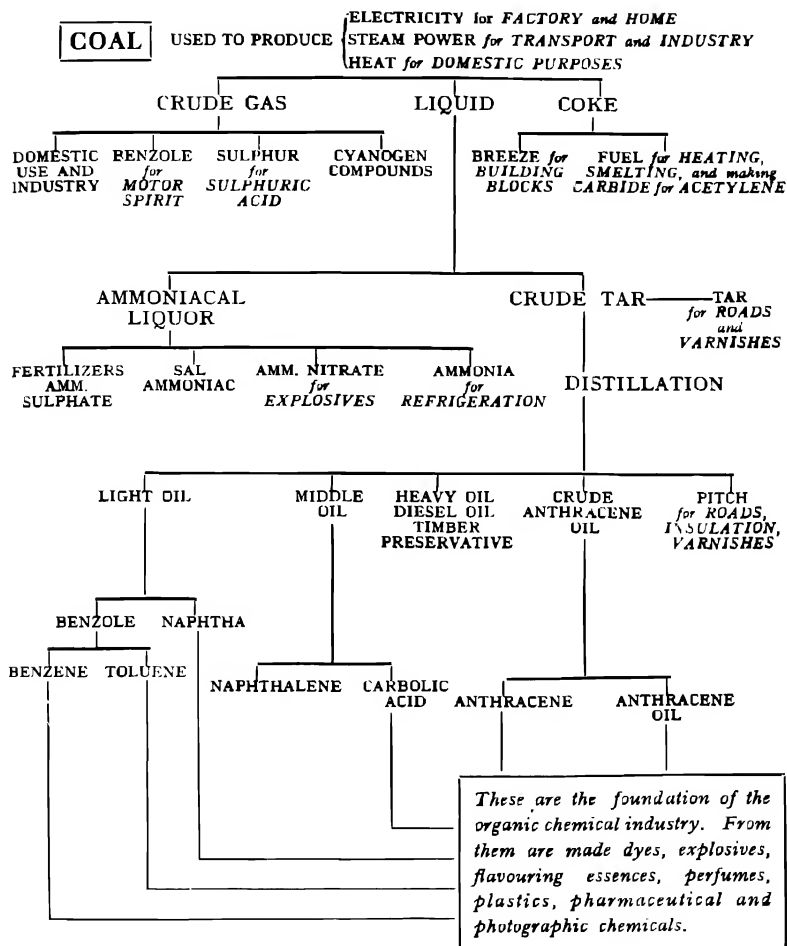


Fig. 7. Diagram of the derivatives of coal.

Coal-gas is manufactured in almost every town, but since elaborate and costly apparatus is required for the extraction of this range of products from coal-tar, distillation is concentrated at a few points, usually on coalfields, e.g. at Billingham-on-Tees and in the Ruhr.

Production of Coal. The annual world production of coal is about 1,220,000,000 metric tons, and the approximate percentages of this total raised by the chief producers are shown in Fig. 8.

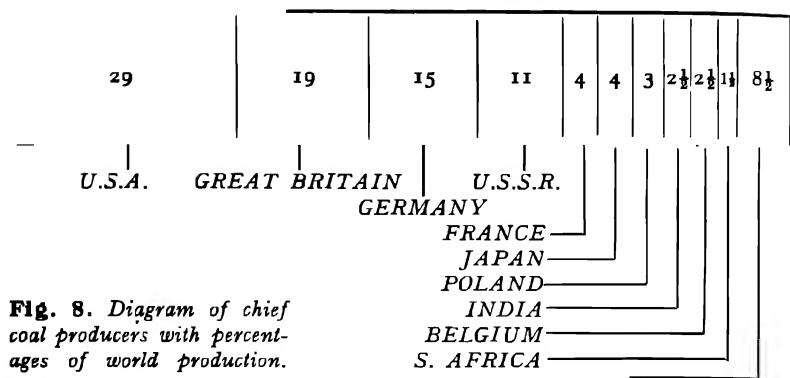


Fig. 8. Diagram of chief coal producers with percentages of world production.

Many countries have vast reserves of coal, which, owing to unstable political conditions, difficulties of transport or access, are not yet developed. Among these are reserves in Canada (in Alberta and Eastern British Columbia), in the U.S.A. (Western States), in China (Shansi and Szechwan Provinces), and in many parts of the U.S.S.R. (Eastern Siberia).

Oil. Mineral oil is important for power, heating, lighting and as a source of lubricating oils. It has tended to replace coal as fuel for ships, and as a source of petrol for internal-combustion engines its importance cannot be over emphasized. Because of its great importance, both in transport and industry, the production of oil has increased enormously in recent years. Over 270,000,000 metric tons are produced annually. The approximate percentages of the world total produced by the principal countries are given in Fig. 9.

Since crude oil has to be "fractionated" to split it up into oils of varying densities for different uses, it is the practice to pipe the oil to the coast for refining at the ports, or for export to refineries in other countries, e.g. oil from the Persian oilfields is piped to refineries at Abadan on the Persian Gulf, or

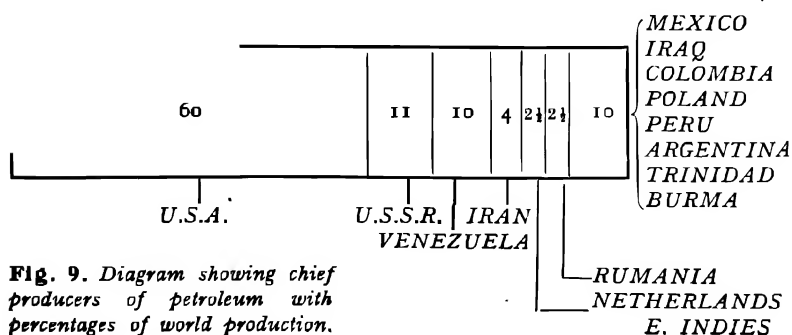


Fig. 9. Diagram showing chief producers of petroleum with percentages of world production.

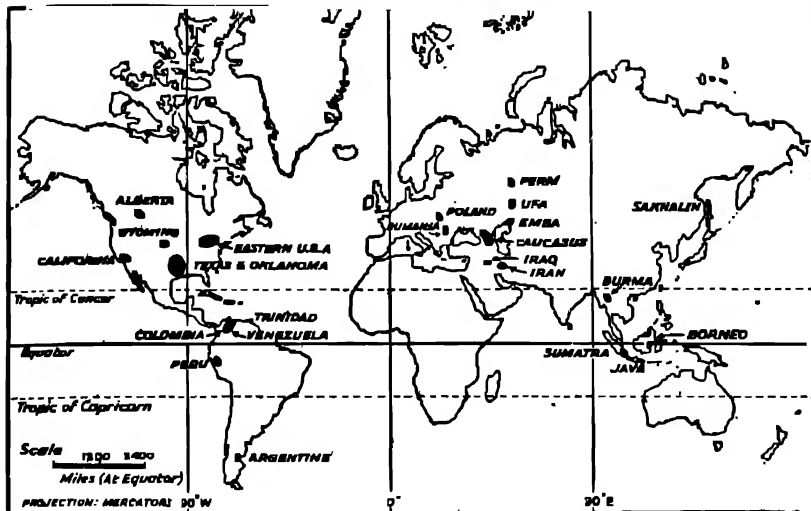


Fig. 10. Map showing how the principal oilfields of the world are distributed.

from Iraq to Haifa and Tripoli in the Eastern Mediterranean for export. Fig. 10 shows the chief areas of production.

Associated with oil, natural gas is a further source of power. It issues from the earth under great pressure, and occurs in Texas and Western Canada principally, being piped to distant areas for consumption.

Hydro-Electric Power. The use of this form of power is even more recent than that of oil, and the development of water power has increased with astounding speed. Not only can power for industrial and domestic purposes be generated, but also for the electrification of railways, and for the electro-chemical industry. It is most highly developed in the more advanced countries, but there are enormous potential power resources in Central Africa, South America, India and China, and the harnessing of this power may be, in the future, the means of bringing prosperity to what are now backward regions.

Among the conditions which favour the development of water power are :

1. Heavy and evenly distributed rainfall, giving rivers a constant flow, or alternatively a regular flow provided by melting of snow and ice in mountain regions.
2. High mountains, which cause swiftly flowing rivers. Rapids and waterfalls are an advantage.
3. Lakes, either natural or artificial, which form reservoirs and maintain an even flow in the rivers.
4. Absence of low temperatures in the winter, so that rivers do not freeze.

In many countries waste water from turbines, having generated electricity, is then used for irrigation purposes, a noteworthy example of this being the Boulder Dam power and irrigation scheme in the Western U.S.A.,

Areas of Development. Among the most important areas with developed hydro-electric power are :

NORTH AMERICA :

CANADA—St. Lawrence Valley, Niagara Falls, Saguenay and St. Maurice Rivers, Kootenay River (British Columbia), Winnipeg (Manitoba). Quebec and Ontario have over 80 per cent of Canada's developed power.
U.S.A.—In the Appalachian mountain zone, Tennessee Valley on the west, and " Fall Line " in the east. In the Western States most rivers are harnessed, the greatest and most recent schemes being Boulder Dam (Colorado River) and Grande Coulee (Columbia River).

EUROPE :

BRITISH ISLES—The Shannon Power scheme in Ireland is the largest. Many schemes already developed in Highlands and Southern Uplands of Scotland—while more ambitious plans are projected. North Wales.
FRANCE—Rhône Valley—Western Alps. .
ITALY—Streams from Alps to Plain of Lombardy are harnessed.
SWITZERLAND—Most rivers are harnessed under ideal conditions. Industries and railways depend almost exclusively on H.E.P. The largest units are at Schaffhausen on the Rhine and at Amsteg on the Reuss.
GERMANY—Chiefly in the south in valleys of Inn, Isar, Lech, Iller, Neckar.
SPAIN—Ebro Valley of Catalonia, using rivers from the Pyrenees.
NORWAY—Developed mainly in the southern part of the country, and used largely for electro-chemical industry.
SWEDEN—Widely developed—but most important at Trollhatta Falls near Gothenburg, Dal River at Gavle, and at Porjus on the Lule River in North Sweden in connexion with iron ore mines and railway.
FINLAND—Many schemes, but largest at Imatra Falls not far from Helsinki.
RUSSIA—Dnieper and Volga Dams, and in Caucasus region.

ASIA :

RUSSIA—Greatest development in Soviet Central Asia in the Turkmen, Uzbek, Tadjik and Kirghiz Republics on borders of Afghanistan and Sinkiang. Also in Far East Maritime Territory.
JAPAN—Widely developed—largest on Kiso River in Honshiu.
INDIA—Rivers of the Punjab, and the River Cauvery in the south.

AUSTRALASIA :

AUSTRALIA—Murray River scheme—Hume Dam (Victoria).
TASMANIA—Tributary of the River Derwent harnessed.
NEW ZEALAND—Chiefly in the South Island for factory and farm use.

LESSON SIX

MAJOR PRODUCTION REGIONS

(1) *Equatorial Forest Lands*

THE equatorial forest lands are situated in a belt bordering the equator roughly between 5° N and S and cover the following regions : (a) the Amazon basin ; (b) the Congo basin and the Guinea coastlands of W. Africa ; (c) Malaya and the Netherlands East Indies. (Fig. 11.)

Temperature and Rainfall

1. The temperatures of these regions vary very little from 80 deg. F. all the year round with maxima at the equinoxes, in March and September, when the sun is overhead.

2. Rain, caused by convection (see Lesson Two), falls throughout the year, with heavier periods at the equinoxes, and everywhere it amounts to over 80 inches per year.

3. There is no routine of seasons since it is always hot and wet throughout the year, but there is a daily routine with regular periods of day and night and regular rain of the thunderstorm character each day, usually in the afternoon.

Vegetation

The forest vegetation of these regions has certain marked features:

1. A great variety of trees, making the collection of their products both difficult and costly.

2. In the denser areas, especially in the Amazon, the trees are tall and branch growth is restricted to the top near the light and air. An interlacing mass of creepers shuts out light and air from the lower part, which is consequently damp, dark and unhealthy.

3. In the less dense areas, in the Congo and Asia, more light and air penetrate and dense undergrowth develops.

Commercial Development

The exploitation of the natural resources and the development of plantation systems of agriculture are very considerably controlled by the climate and vegetation conditions which obtain in these regions.

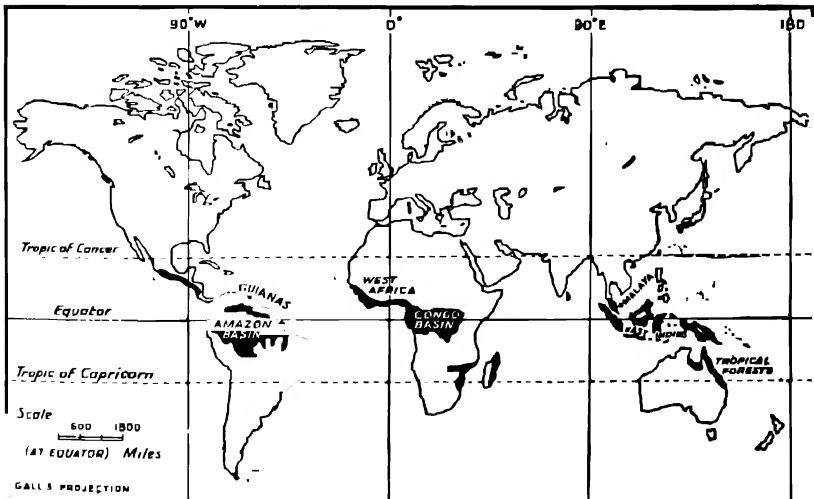


Fig. 11. World map showing equatorial forest lands. There is no seasonal variation of temperature in these regions and rain falls throughout the year.

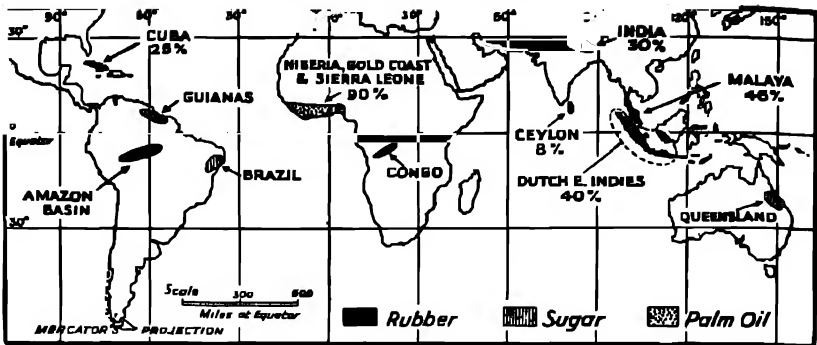


Fig. 12. Map of the major production areas of rubber, sugar and palm oil
The figures indicate percentages of total world production

1 The native population is scanty and because of the enervating conditions unfit for hard organized labour while the climate makes the use of white labour impossible

2 The collection of timbers and other forest products is difficult and expensive

3 The dense undergrowth and the wet soft ground make transport difficult and the building of roads and railways so expensive as to be uneconomical

4 Clearing for agriculture is laborious and cleared areas are difficult to maintain on account of the rapid growth of poor forest types and weeds

It is, however, important to contrast the backward and undeveloped areas of the Amazon and the Congo with the island and peninsular areas of S E Asia, where proximity to the sea modifies climate conditions, makes the regions more accessible and settlement and development by Europeans possible. These factors, combined with the fact that labour, which is more adequate in quality and quantity, is available, have resulted in extensive plantation agriculture systems being developed.

Commercial Products

The forests yield supplies of

1 *Valuable timbers*, especially mahogany, ebony and greenheart

2 *Rubber*, the coagulated juice of various plants and trees which grow under equatorial climate conditions. With the discovery of the vulcanizing process and the growth of the bicycle, car, electrical and other industries using rubber, the demand for rubber increased, and plantation production was started in Ceylon, Malaya and the Netherlands East Indies. Plantation rubber is of a higher quality and is more easily collected and handled than wild rubber and to-day these areas account for more than 90 per cent of the world's supply.

3 *Palm oil and palm kernel oil*, obtained from the oil palm, a native of Nigeria, the Gold Coast and Sierra Leone, from which about 90 per cent of the world's supplies come. Palm oil from the pulp of the fruit is used extensively in the tin-plate industry of South Wales while the finer oil from the kernel is used for margarine manufacture.

	<i>Areas</i>	<i>Chief Exports</i>	<i>Towns and Ports</i>
S. AMERICA	1. AMAZON BASIN	Rubber, Timber, Manioc, Nuts	Para Manaos (river port)
	2. COASTAL LANDS (a) BRAZIL (b) FRENCH GUIANA (c) DUTCH GUIANA (d) BRITISH GUIANA	Sugar, Rice Bananas, Palm Oil, Ground Nuts Sugar, Rum, Coffee Sugar, Rum, Rice	Pernambuco, Bahia Cayenne Paramaribo Georgetown
AFRICA	1. CONGO BASIN	Copper, Palm Oil, Gold, Rubber	Leopoldville, Banana, Boma, Matadi
	2. GUINEA COASTLANDS (a) NIGERIA (b) GOLD COAST (c) SIERRA LEONE	Palm Oil, Timber Cacao, Timber, Gold Palm Oil, Kola Nuts	Lagos, Port Harcourt Accra, Takoradi Freetown
ASIA	1. MALAYA 2. NETHERLANDS EAST INDIES	Tin, Rubber, Pepper, Copra, Pineapples Rubber, Tin, Copra, Oilseeds, Cacao, Coffee, Tea, Pepper	Singapore Batavia (capital of Java)

Table showing the principal exports, towns and ports of the equatorial forest lands.

4. *The sugar cane*, which is widely grown in tropical lowland areas. For its distribution see Fig. 12, noting that its growth is not restricted to equatorial lands.

The cane, a gigantic grass filled with a sap rich in sugar, is usually grown on large estates where it is cut, bundled and transported to crushing mills for the extraction of the crude sugar. This raw sugar is then refined and from these various processes several important by-products result—molasses, used in the manufacture of cow cakes, treacle and syrup.

5. *Cocoa*, obtained from the fruit of the cacao tree. West Africa, especially the Gold Coast and Nigeria, supplies more than 50 per cent of the total world supply. Smaller producers are Ecuador, Venezuela, Colombia in South America, and Trinidad and Jamaica in the West Indies.

6. *The coconut palm*, which grows principally in sandy areas near the sea, especially on the islands of S.E. Asia, yielding oil for margarine manufacture, and coir, the outside fibre of the nut, for mat making. The oil is extracted from the dried flesh of the nut, which is known as copra.

LESSON SEVEN

MAJOR PRODUCTION REGIONS

(2) *Tropical Grasslands*

THE savanna or tropical grasslands lie to the north and south of the equatorial forest lands. Their extent and the character of their commercial development vary considerably in different areas. Study their distribution on Fig. 13 on the following page and notice the names or labels given to each region.

Temperature, Rainfall and Vegetation

These savanna lands have certain common characteristics. The summers are always very hot (80 to 90 deg. F.) and the winters hot with temperatures about 70 deg. F. The range of temperature increases with distance from the equatorial margin and considerable modifications occur on account of altitude.

Rains occur in summer with the north and south movement of the equatorial convectional rain belt. Near the equatorial margin two seasons of rain occur which merge into one further north and south. The rainfall near the tropical forests is as high as 70 inches and near the deserts as low as 15 inches.

There is a corresponding range of natural vegetation from woodlands with grassy tracks, through parklands, where the grasslands are dotted with clumps of trees, to savanna proper and finally to scrub, where the grasses are poor and thorn bushes occur.

Commercial Development

The present undeveloped character of much of the savanna lands is due to : (a) their scanty and primitive populations, which are content to produce only for their own needs ; (b) difficulty of access, a factor especially important in the campos of Brazil, a wild desolate plateau cut off by the highland rim from the coastal lands.

These factors render the savannas of Australia, the campos and llanos of South America of little value in producing commercial commodities for the world markets. The notable exception is the coffee production of the S.E. campos of Brazil.

In Africa, where climate conditions are most favourable, where the native people, e.g. the Hausa of Nigeria, are more advanced, and where white settlement with capital and organization has been possible in the European colonies, considerably more development has resulted.

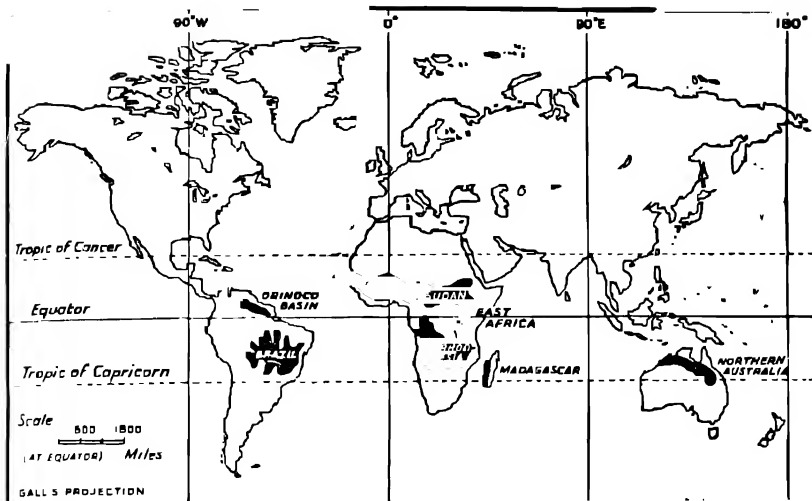


Fig. 13. Map illustrating the extent of the savanna or tropical grasslands.

Present and Future Production

Pastoral Lands. At present the herds of native cattle and sheep yield little meat, but there is a considerable trade in hides and skins in some regions, Nigeria, the Sudan and East Africa. The quality of these sun dried hides and skins is, however, not up to that of the wet salted hides of the temperate lands.

With the demand for new ranching lands, these areas must necessarily become more important as cattle and meat lands, but this development will need improved cultivated grasses, improved stock and increased and better facilities for transport.

Primitive Agriculture is carried on by the native farmers, who grow maize, millet and ground nuts for native foodstuffs and, in some cases, are encouraged by trading companies and colonial governments to produce a surplus for export. Ground nuts, known also as monkey nuts, besides their value as a native food are used commercially to produce oil for margarine and soap manufacture.

In some areas, principally Uganda, cotton is a native production carried on under government supervision.

European Plantation Agriculture. Most important in this group is the production of cotton. Cotton grows under a wide variety of climate and soil conditions and there is a corresponding wide range of types, the commercial value of each type depending largely on the length of the fibre or staple. The savanna climate conditions provide (a) the necessary rain in the early growing season; (b) a dry season for picking; (c) a summer temperature of 75 deg. F. and a period of seven months free from frost.

Apart from Uganda, where production is mainly in the hands of the natives, the principal cotton-growing area of the African savanna is the Gezira

Plain of the Anglo-Egyptian Sudan, where irrigation has been established and large scale organization introduced. As a result, cotton produces 75 per cent of the total value of the exports of the Anglo-Egyptian Sudan.

Coffee is the other important plantation crop and is especially important in Brazil and Kenya. In Brazil, coffee is grown on the southern edge of the campos in the state of Sao Paulo which, with its rich volcanic soils, produces two-thirds of the world's supply. Sao Paulo is the collecting and marketing centre, while Santos and Rio de Janeiro are the principal export ports.

In Kenya, coffee production is in the hands of European settlers. As a crop, small in bulk and high in value, it is especially valuable where transport is difficult and expensive.

These savanna lands are capable of considerable development because temperatures make crop growing possible throughout the year, so that, with irrigation, temperate crops will be grown in the cool season and tropical crops in the hot season. Moreover, the higher altitudes of the African savanna make European settlement possible and this will be followed by the employment of capital and an extension of transport for the expansion of those industries with which the future of these lands will be linked—cattle, coffee, and cotton.

LESSON EIGHT

MAJOR PRODUCTION REGIONS

(3) *Monsoon Lands*

THE true monsoon regions are those which have seasonal winds blowing inland to the continental low-pressure area in summer and outwards from the continental high-pressure area in winter, and having in consequence, the characteristic monsoon climate conditions (a) hot wet summers, (b) dry cold winters.

The chief monsoon areas are India, Burma and Ceylon, Indo-China, China and most of Japan in the Northern hemisphere, North Australia in the Southern hemisphere (Fig 14).

These areas provide, with their seasons of heat and heaviest rainfall occurring at the same period, exceptional conditions for crop production and, with the exception of Northern Australia, are areas of dense population. To provide food for this abundance of labour, plantation and intensive systems of agriculture are employed.

While, however, all these areas have the same broad characteristics of climate there are very considerable variations of temperature and rainfall conditions and a corresponding range of crop production. It will, therefore, be convenient to deal with the climate, crops and resulting human activity of the more important of these regions individually.

India, Burma and Ceylon

India has a population of more than 350 millions, of which well over 70 per cent are directly dependent on agriculture for their livelihood. The cultivation and distribution of crops depend on two main factors (a) water supply by the monsoon rains and by irrigation, (b) relief and soil conditions.

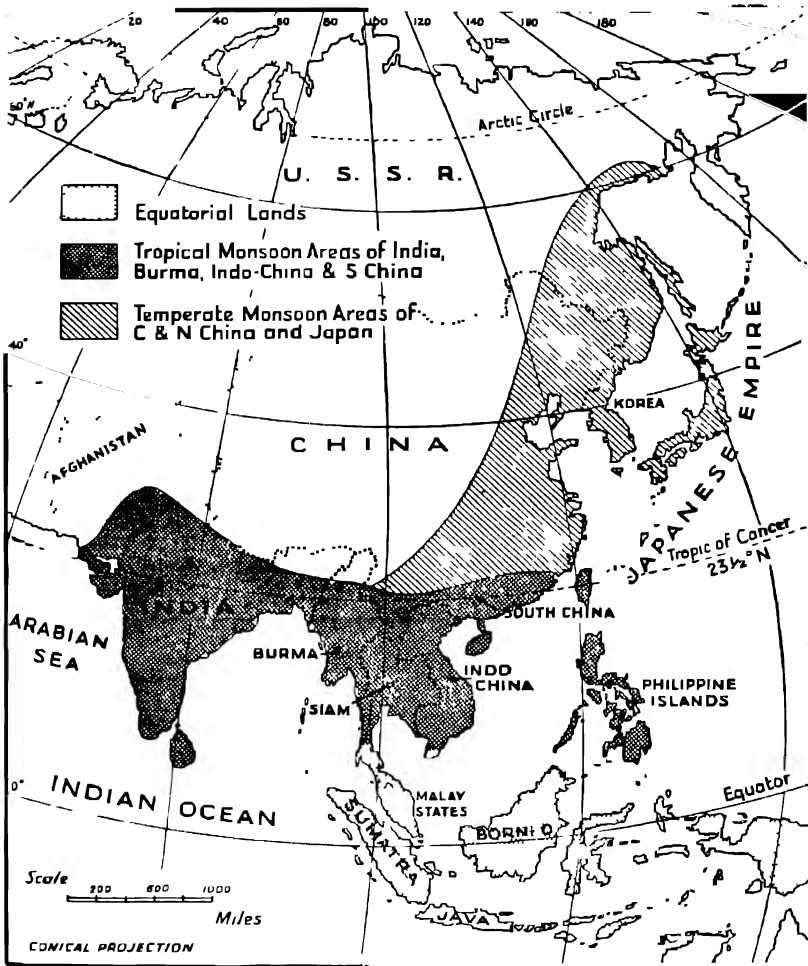


Fig. 14. The vast thickly populated monsoon lands of India and the Far East.

The Summer Monsoon. The course of the summer S W. monsoon and the distribution of rainfall shown on Fig 15 should be studied in connexion with the relief map and the notes below

The monsoon brings heavy rain to the west coastal plain, Ceylon and the Western Ghats, but crosses the main section of the Deccan as a drier wind and brings to it only moderate rainfall. The section crossing the Bay of Bengal is drawn into the low pressure area of the Ganges, bringing heavy rain to the delta and lower Ganges region and decreasing quantities to the middle and upper Ganges. Other winds crossing the Bay bring heavy rain to Burma.

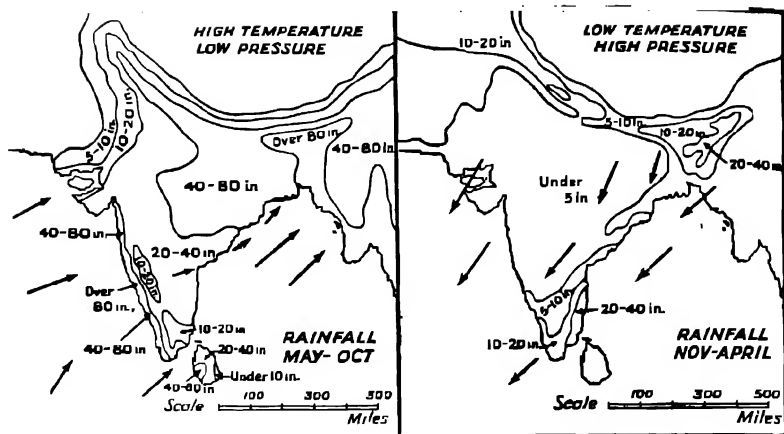


Fig. 15. Distribution of seasonal rainfall in India, Burma and Ceylon. The arrows mark the major wind trends, those in the left-hand map indicating the monsoon

It should be noted that the Indus valley lies outside the range of the monsoon and is therefore an area of scanty rain.

Irrigation systems vary from primitive wells and flood systems to modern dam schemes, all of which serve, however, to supplement the natural rain

supply or to bring areas of scanty rainfall into production and so to increase crop production and to decrease famine in areas of marginal rainfall.

Relief and Soil Conditions. It is interesting to compare the map showing distribution of population (Fig. 17) with the maps showing relief and distribution of rainfall (Figs. 15 and 16) and to notice these facts. The areas of densest population are (a) the well-watered

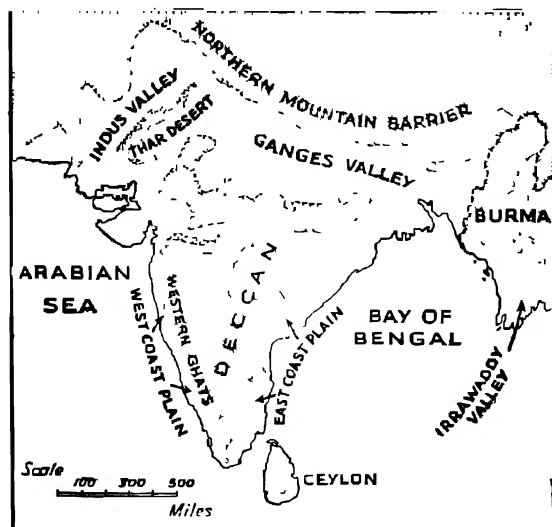


Fig. 16. Relief features of India, Burma and Ceylon

lowlands with rich alluvial soils, like the Ganges and Irrawaddy valleys and the coastal plains of Peninsular India, (b) the Deccan areas of rich volcanic soil, (c) the Punjab where the Indus tributaries make large-scale irrigation possible

The areas of scanty population are the Thar desert, which receives little monsoon rain and cannot be irrigated, and the mountainous areas where relief limits agriculture. (Fig 17)

Chief Crops Rice is the most important food crop of the population, especially in the exceptionally hot and wet regions and, except in Burma, there is no surplus for export. The plants, reared in small fields or nurseries, are transplanted to embanked paddy fields in the low lying valley, delta and plain regions where flooding is possible

Millet is the main food in the drier areas, especially in the Deccan where it is extensively grown. The seed is ground into flour the stalks provide fodder for cattle and the straw is used in hut building

Wheat is grown as a winter crop in the cool and dry districts of the north, especially in the Punjab and Upper Ganges. Some is exported from Karachi and some from Calcutta

Sugar is a rainy season crop of the Upper Ganges and other regions. Although India ranks as the largest producer, the quality of the sugar is poor and the bulk is used for home needs

Tea, the third largest export commodity, thrives best on wet well-drained hillslopes, especially in Assam around Darjeeling, and in Ceylon

Cotton and jute rank as the most important raw material crops. They not only feed India's leading large-scale factory industries but provide the largest items of export

Cotton grows on the rich black basaltic soils of the N W Deccan where the bulk of the native short-stapled cotton grows. Some medium-stapled American cottons, which have longer fibres, are grown in the Punjab and United Provinces. Raw cotton is exported to Japan and China

Jute requires similar growing conditions to rice and is grown principally in the delta region of the Ganges. Much of the crop is used in the jute mills of Calcutta, where the fibres are spun and woven to make coarse cloth used in

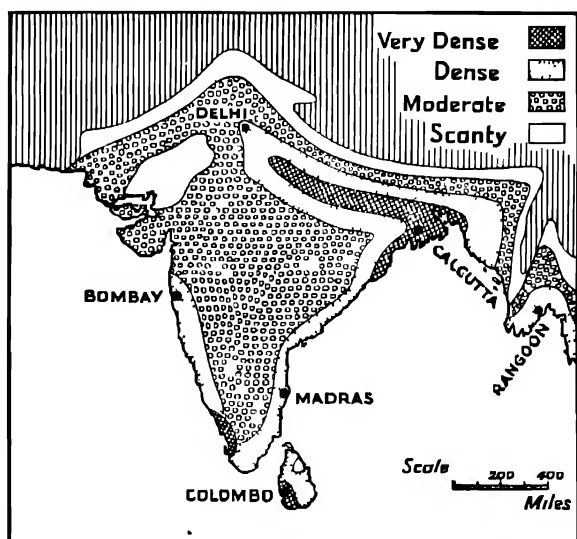


Fig. 17. Population in India, Burma and Ceylon

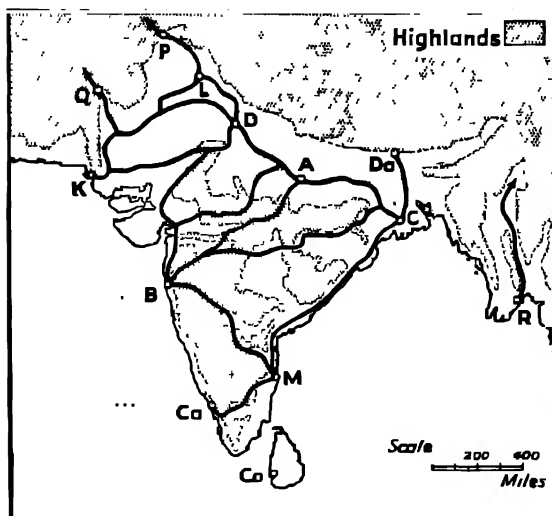


Fig. 18. The principal cities and railway routes in India, Burma and Ceylon.

Key:—

- A - Allahabad
- B - Bombay
- C - Calcutta
- Ca - Calicut
- Co - Colombo
- D - Delhi
- Da - Darjeeling
- K - Karachi
- L - Lahore
- M - Madras
- P - Peshawar
- Q - Quetta
- R - Rangoon

sailcloth manufacture, sacking and sacks. Considerable quantities of the raw material are exported, especially to Great Britain for the Dundee manufacturing area, while much of the sacking and sacks goes to the U.S.A., Australia and so on for cereal sacks and meat coverings.

Manufactures Native domestic industries and crafts, which include cotton, silk, wool, pottery, leather and metals, are widespread and employ more people than the large-scale factory industries. Of the latter, apart from the cotton mills of Bombay and the jute manufacture of Calcutta, the principal are concerned with the preparation of local products. Among these may be mentioned the tea preparation of Assam and Ceylon; the flour mills of the Punjab; the oil refineries and tobacco factories of Madras; the saw mills and rice mills of Burma

China

Of the total of over 400 millions, 80 per cent of China's people depend on the land for their livelihood. The mountainous character of so much of the land has led to a concentration of population in the three great river basins of the Hwang-Ho, Yang-tze-Kiang and Si-Kiang. (Fig. 19).

The reasons for this are: their rich fertile alluvial soils; their sheltered and favourable climate of the monsoon type; their supplies of water for irrigation, the rivers provide the main arteries of communication; and the commercial centres, markets and ports have all grown up in relation to them.

The restricted areas for crop production, together with the high population, have determined the methods employed in Chinese peasant farming. Most of the holdings are only two or three acres and are intensively cultivated. In some areas, and in particular for certain crops, terrace cultivation on the hill slopes is extensive. Little land is available for pasture and only pigs and

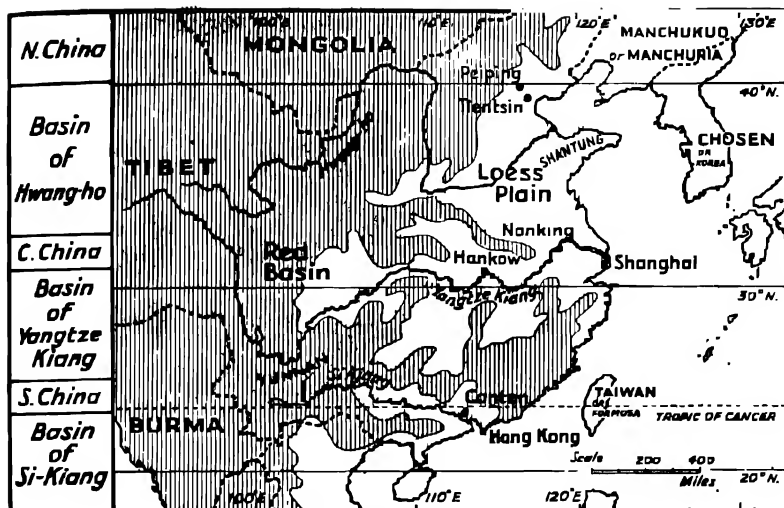


Fig. 19. The three great river basins which constitute the most productive areas of China. The Yang-tze-Kiang has a total length of 5,300 miles.

draught animals, such as the water buffalo, are kept on any scale.

Three Great River Basins. The monsoon climate of China shows considerable variation from south to north due to the wide range of latitude, and there is a corresponding range of crops and human activity. These variations are best considered in relation to the three great river basins with which they correspond as shown in the table below :

	<i>Latitude</i>	<i>Climate</i>	<i>River</i>
N. CHINA	40° N.	Temperate monsoon	Hwang-Ho
C. CHINA	30° N.	Sub-tropical monsoon	Yang-tze-Kiang
S. CHINA	23½° N.	Tropical monsoon	Si-Kiang

Each of these regions, with characteristic relief and soil conditions, climate and products, forms a separate natural region, the principal features of which

can be summarized in the following tables, which should be studied in relation to the map given in Fig. 19.

			<i>Climate</i>	<i>Relief Features</i>	<i>Products</i>	<i>Chief Towns</i>
N. CHINA	R. Hwang-Ho	40° N.	Temperate monsoon Winters dry and cold Summers hot and rainy	1. Wei-ho valley 2. Loëss plain 3. Flood plain	Wheat Millet Barley Soya bean Coal deposits	Peiping (old capital) Tientsin (Port)
C. CHINA	Yang-tze-Kiang	30° N.	Sub-tropical monsoon Rain at all seasons mainly in summer	1. Red basin 2. Ichang gorge 3. Central plain 4. Delta	Rice Tea Cotton Silk Coal and Iron	Chungking Hankow Nanking (capital) Shanghai—Entrepôt port for the whole basin
S. CHINA	Si-Kiang	23½° N.	Tropical monsoon Hot and wet at all seasons	1. High Yunnan plateau in west 2. Delta	Rice Cotton Silk	Canton N.B. position of Hong Kong (Br.)

Japanese Empire

Before the second World War the Japanese Empire consisted of (a) Japan proper—the islands of Hokkaido, Honshu, Shikoku and Kyushu ; (b) overseas territories—Taiwan and Chosen obtained from China, the Kwangtung Peninsula secured from Russia, and Pacific island groups including the Marianne, Caroline and Marshall Islands.

The vast and ever-increasing population of about 100 millions, the limited areas available for cultivation and settlement, on account of the extensive forest mountains, and the rapid industrial development of the previous 80

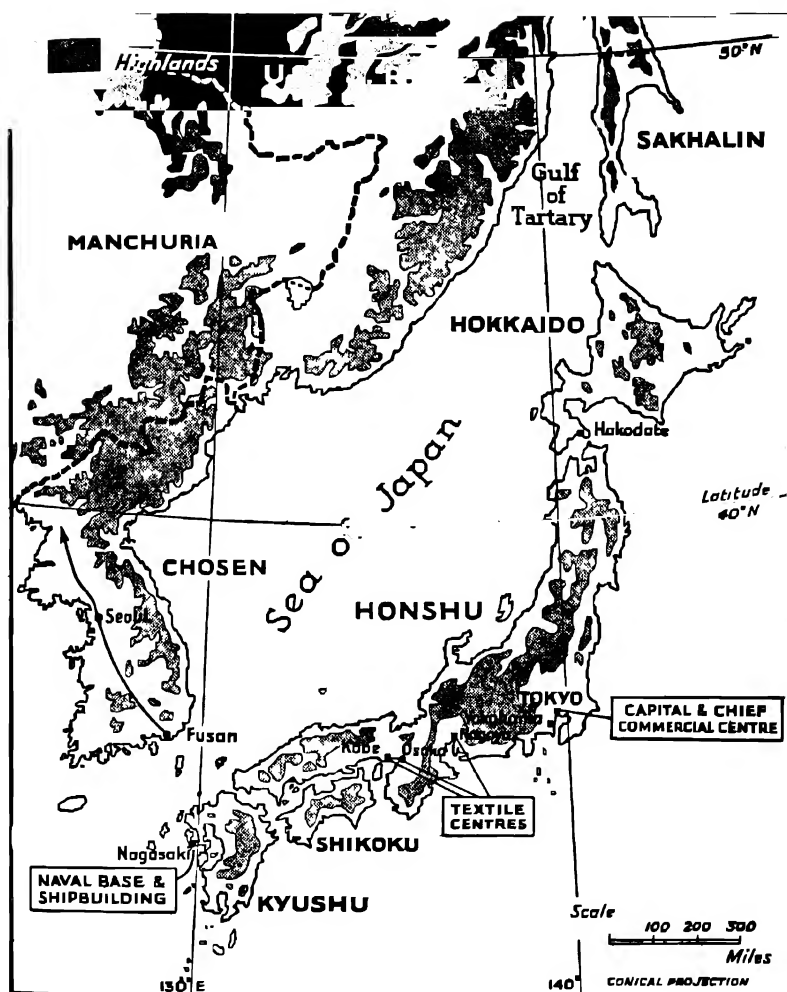


Fig. 20. Relief map of Japan and Chosen (Korea) showing industrial centres

years, resulted in the following special features of Japanese economic life

1. Intensive systems of agriculture the careful cultivation of small holdings, systematic crop rotation, hillslope terracing and the use of artificial fertilizers

2. Development of manufacturing industries to provide increased employment for the people and to extend her export trade to obtain increased purchasing power for goods needed from overseas

3. The development of her maritime resources, her fisheries and mercantile shipping.

4. The need for overseas expansion to secure further resources of food-stuffs, raw materials and minerals for her industries.

As a result of the defeat of Japan and the conditions imposed upon her by the Allies, it is to be expected that changes in the economic life of the country will take place, particularly in the industrial sphere. This factor should be borne in mind as we examine in greater detail the special economic features of the country.

Agriculture. About three quarters of the cultivated lands are devoted to food crops. Rice is extensively grown in the south; wheat, barley, rye and millet are grown in the north and on the paddy fields of the south as winter crops. Soya beans and potatoes are also widely cultivated. For silk-worm production, over a million acres are devoted to mulberry trees, many of which are grown on the banks between the paddy fields. Silk and silk manufactures are Japan's staple export commodities. The hillsides are terraced for tea cultivation.

Manufactures. Japan's rapid industrial development has resulted from the presence of local supplies of raw materials, abundance of water and hydro-electric power, adequate supplies of cheap labour and efficient organization.

Textiles form the most important group. Cotton goods, manufactured at Kobe, Osaka, and Nagoya, are exported to India and countries of south-east Asia. Silk reeling, spinning and weaving are widely distributed industries, but the chief centre of manufacture is Kobe.

Iron and steel industries, the manufacture of machinery and of ships, are a second important group.

Other industries include sugar refining and flour and rice milling, manufacture of porcelain, pottery, glass, lacquer goods, matches, and chemicals.

Fisheries. Japan's fisheries are especially important in the cool seas in the north where the submarine banks are rich in fish food. The fisheries employ over a million people, and include herring, cod, sardine, haddock and mackerel for food. Minor fisheries include collection of seaweed, used as a relish for soup and rice, and the production of culture pearls.

Japan's Overseas Possessions. *Taiwan (Formosa)* was ceded to Japan by China in 1905. It is cut by the tropic of Cancer ($23\frac{1}{2}^{\circ}$ N.) and thus has a tropical monsoon climate. It is the principal source of the world's supplies of camphor, which is obtained from the leaves and twigs of an evergreen tree. Rice is the chief food crop; jute, tea and sugar are produced for export. The chief town is Tainan.

Chosen (Korea). This peninsula has a more extreme climate than the mainland of Japan and much of the land is forested and mountainous. Barley is grown in the north; millet, beans and some rice in the south. Chosen has useful supplies of minerals, especially iron ore. The principal port is Fusan, which is linked by railway with Seoul, the capital.

Northern Australia

The north-west coastlands of Australia have a true monsoon climate with typical summer rainfall brought by the north-west monsoon.

There is some production of coconuts, rice, bananas and cotton, but

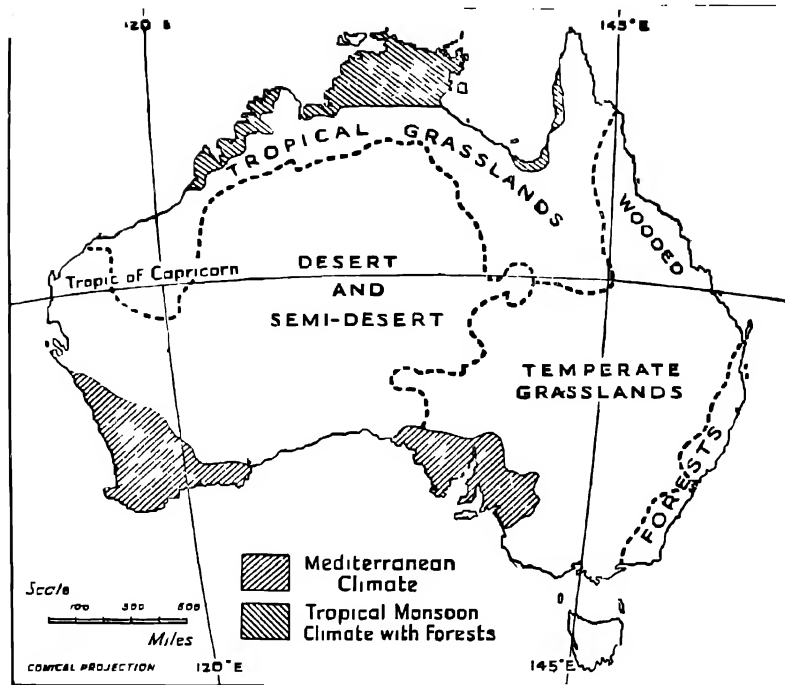


Fig. 21. Map illustrating the diverse climatic conditions found in Australia

generally the region is undeveloped and scantily populated because climate conditions are adverse to white settlement, with the result that little capital and labour are available

Darwin is the chief town in this region. It is the terminus of the overland telegraph and an important airport

LESSON NINE

MAJOR PRODUCTION REGIONS

(4) *Mediterranean Lands*

THIS group embraces those areas which experience the Mediterranean climate—a type experienced by the lands surrounding the Mediterranean Sea, and in other lands situated in similar latitudes, between 30° and 40°, on the west sides of the continental masses. Included are California, Central Chile, south west tip of the Cape Province of South Africa and the south-west of Australia, and the coastal regions of South Australia and Victoria. These areas are shown in Fig 23

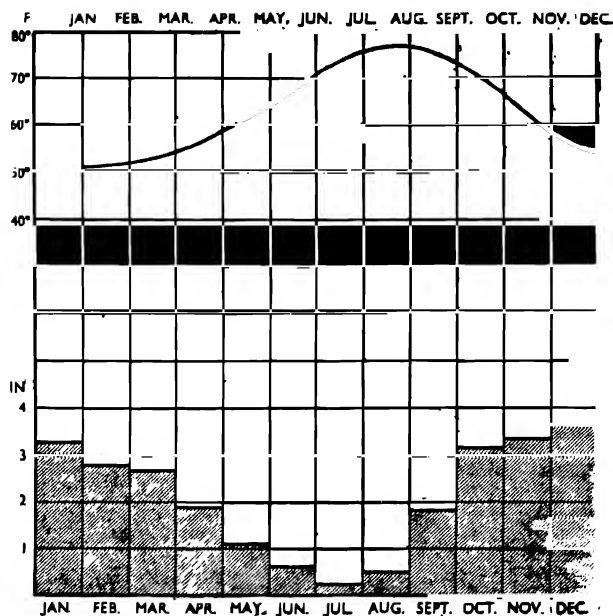


Fig. 22. Temperature and rainfall charts for Palermo (Sicily), showing typical conditions of Mediterranean climate.

Above :
Temperature

Below : Rainfall.

Briefly the climate consists of hot dry summers, and mild wet winters. In summer, the Mediterranean areas lie in the sub-tropical high-pressure belt, or Horse-Latitudes, and experience very high temperatures, with cloudless blue skies, and a rainless period varying from one to three months. In winter, owing to the northward swing of the wind and pressure belts, the Mediterranean areas lie in the westerly wind belt, and receive both cyclonic and relief rains. Winter, however, is not a dreary period, for the rains fall in sudden sharp showers, and brilliant sunshine follows. In fact, the Mediterranean lands are among the sunniest parts of the world.

The Natural Vegetation is adapted to the climate, i.e. to withstand a period of hot dry weather in summer. Some plants, such as the vine, are deep rooting, and capable of reaching underground supplies of water when the surface soil is dry and dusty. Others, such as the laurel, have thick leathery and shiny leaves, which reflect the rays of the sun. Many, like the olive, have small leaves so as to restrict the loss of water by transpiration, and they turn the edges of their leaves to the sun for additional protection from its scorching rays. The cork oak has a thick layer of cork to protect its stem, while many typical Mediterranean plants are small woody shrubs often containing aromatic oils in their leaves for protection, e.g. thyme and lavender. Large areas are covered with maquis, consisting of low shrubs which spread out and protect the underlying ground from the sun's heat. The typical Mediterranean vegetation is evergreen—which enables it to grow during the mild winter, while summer is a period of rest.

Grass Products. Grassland is uncommon in these regions, as grass is not suited to the parching summer heat, but a tough coarse grass known as

esparto grass is common to parts of the Spanish plateau and to North Africa. It is used principally for making matting, ropes, and baskets, and is exported in large quantities for paper-making.

Forest Products. Forests occur in the wetter areas, usually on the higher parts, but there are few continuous areas of any size round the Mediterranean Sea. Deforestation was ruthlessly carried on in the past to provide timber for boat-building, and the absence of any determined effort at reafforestation, combined with the depredations of the goat (the most typical Mediterranean animal), prevented any replacement. However, certain trees do provide commercial products, notably the sweet chestnut, the walnut (both timber and nuts), and the cork oak. California produces large quantities of timber from the giant redwoods and sequoias, Central Chile large quantities of beechwood and Araucanian pine (though little is at present exported), while Western Australia produces two specially valuable hard timbers in karri and jarrah, both in great demand owing to their powers of resistance to rot, especially when used for harbour works.

Cultivated Products. The Mediterranean lands are *par excellence* agricultural lands. They are among the sunniest parts of the world, and this fact is exploited to the full, in the production of a wide range of agricultural products, particularly fruit, olive oil and wine.

Olives, vines, peaches, apricots, oranges, lemons, almonds, figs, dates and plums are among the principal crops. Irrigation is widely used to supplement the rainfall where necessary, and the hot dry summer weather is utilized for sun-drying various types of grapes to produce currants and sultanas, while plums are dried to produce prunes. Much of the fruit is exported fresh, and vast quantities of grapes are converted into wine, especially in Spain, Portugal, Italy and North Africa.

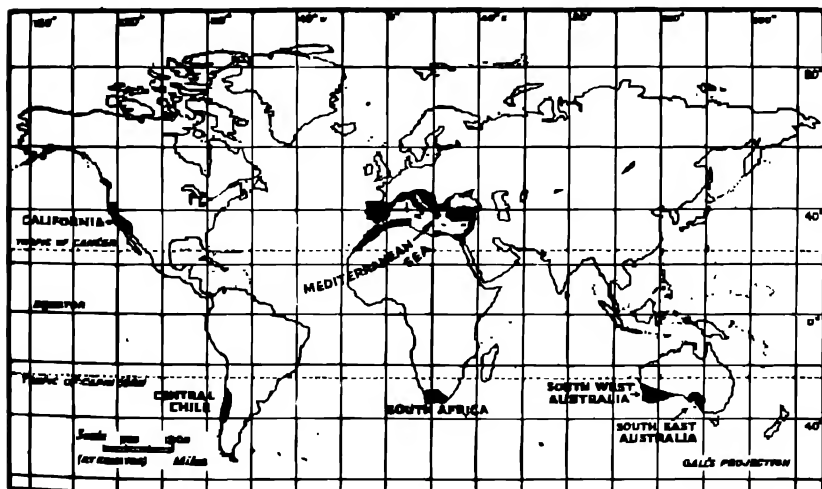


Fig. 23. Distribution of the principal Mediterranean regions of the world. Note how they are situated on the western sides of the continental masses.

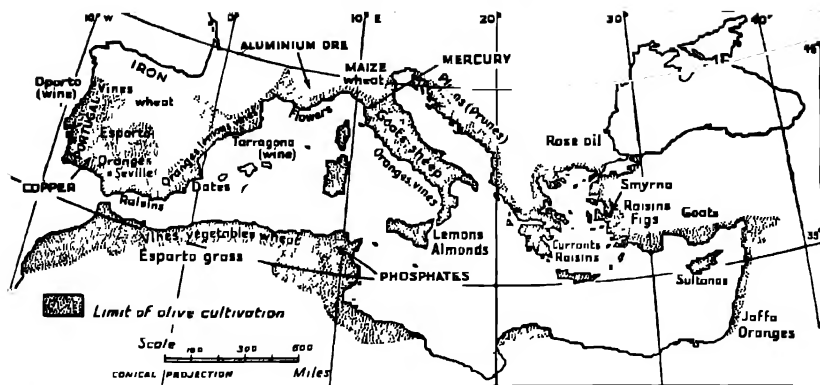


Fig. 24. Minerals and other products of the lands around the Mediterranean Sea.

Flowers are grown for their perfume, notably roses at Grasse in France, and in Bulgaria, while the mild winter enables early vegetables to be produced on the fertile plains near Naples, these being destined for foreign markets as distant as London.

A considerable tomato canning industry has also developed in the Naples area, while fruit and vegetable canning has reached enormous proportions in California, South Africa and South Australia.

Minor Products. Other products of the Mediterranean lands are chestnuts, cork, esparto grass, timbers, silk (based on the cultivation of the mulberry), leather for gloves, mohair, wool and macaroni, made from the typical Mediterranean cereal, wheat. Sardines are tinned in Portugal.

Minerals are important in certain areas. Those found in the countries around the Mediterranean Sea are shown in Fig. 24 above.

LESSON TEN

MAJOR PRODUCTION REGIONS

(5) Temperate Grasslands

THE temperate grasslands occur in the interiors of the continents in the temperate zone, where rainfall is insufficient to support tree growth.

The main areas of temperate grassland (Fig. 25) are :

North America. A roughly triangular area known as the prairies, east of the Rockies, extending from Edmonton in the north to the Gulf of Mexico in the south, with Winnipeg at the third apex of the triangle.

South America. A more or less semi-circular area round the Plate Estuary, known as the pampas, and extending for approximately 350 miles in all directions from Buenos Aires, in Argentine and Uruguay.

Eurasia. The steppes of Russia, extending from the Ukraine across the Southern Urals into Siberia, bounded by the coniferous forests on the north and the deserts of Asiatic Russia on the south.

South Africa. The veldt, part of the plateau of South Africa, lying west of the Drakensbergs, and merging westward, as rainfall decreases, into the Kalahari Scrub. The northern limit here is the Tropic of Capricorn, across which the grasslands merge into the savannas of tropical latitudes.

Australia. The plains of New South Wales and Victoria, inside the rim of the Great Dividing Range, the Blue Mountains and Australian Alps, merging westward into scrub and desert and northward into the Queensland savannas.

Minor Areas occur in the plain of Hungary, the plains of Manchuria, and the Canterbury plains of New Zealand. In each case mountains shelter these areas from rain-bearing winds and reduce the rainfall below the requirement for tree growth.

Here two different types of climate must be distinguished. It will be seen that the prairies of North America and the steppes of Russia lie in the centre of land masses, and receive little moderating influence from the sea. They therefore experience a continental or extreme type of climate, with hot summers and very cold winters. In the southern hemisphere the temperate grasslands lie nearer the equator than those in the northern hemisphere, and also in narrow parts of the continents, not far removed from the sea. As a result, they do not experience the low winter temperatures of the steppes or prairies, and their winters are relatively mild. A study of the temperature charts (Fig. 26) for Saratov, on the steppes of Russia, and Rosario, in the Argentine pampas, will illustrate the difference.

In all cases summer is the period of maximum rainfall. This is of the convectional type, due to the setting up of convection currents by the heating of the land in summer. Hot summers combined with summer rainfall are conducive to rapid growth, and so the temperate grasslands have become some of the leading agricultural areas of the world.

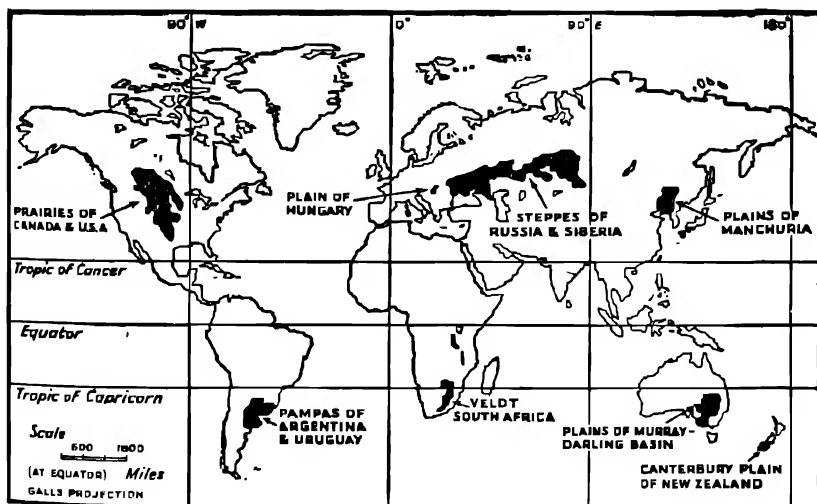


Fig. 25. Distribution of the principal temperate grasslands of the world.

Vegetation and General Aspect

Generally speaking, rainfall is inadequate for tree growth, especially as there is a marked reduction of rainfall in the winter period. The natural vegetation consists, therefore, of grass, together with bulbous plants which store moisture to tide over the drier period. These bulbous plants—bluebells, tulips, lilies and verbenas—burst into flower in the spring and give colour to an otherwise monotonous landscape. The general picture is one of gently rolling, open country, not unlike the downs of south-east England, relieved here and there by belts of trees along a water course.

So favourable have these grassland regions proved to be for agricultural purposes, that they have attracted millions of settlers from most of the

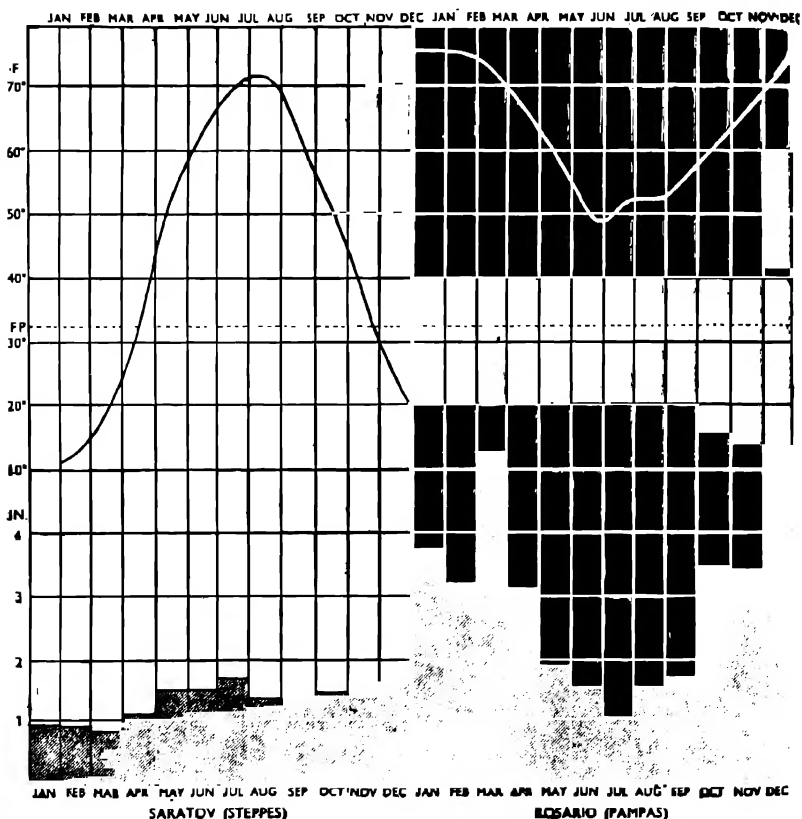


Fig. 26. Typical temperature and rainfall charts, illustrating

- (1) Light rainfall and extreme climatic conditions of steppes (northern hemisphere).
- (2) Warmer winter conditions and heavier rainfall of pampas (southern hemisphere). Note.—June and July are winter months in the southern hemisphere.

European countries. Now they rank as the chief sources of foodstuff and many other raw materials (e.g. wool and linseed oil) required by the densely peopled industrial areas of Europe and the eastern part of the U.S.A.

Among the favourable geographical conditions were: (a) fertile soil—enriched by the accumulated humus of centuries; (b) openness and freedom from trees, which made costly clearing unnecessary, and allowed the use of labour-saving machinery; (c) ideal climate for a variety of agricultural purposes; (d) demand for agricultural products in industrial areas.

Most of the countries concerned have assisted in attracting settlers for the development of agriculture by grants of land and by providing transport facilities to the coast for export of surplus products.

The *principal products* are derived from agriculture and may be summarized as follows:

Products of arable farming: wheat, maize, barley, oats, linseed oil (from flax).

Products of pastoral farming: beef, mutton, hides and skins, wool, mohair, butter, cheese, tallow.

Alfalfa grass is widely grown as a fodder crop, especially in the drier parts of the prairies and pampas. For fattening cattle it has a food value several times that of an equivalent acreage of grass.

In the Russian steppes sunflowers are widely grown for the oil contained in their seeds, while in Manchuria soya beans form an important crop, supplying the bulk of this oil-bearing bean for the world's markets.

Conditions and products vary from region to region, so each will now be considered in greater detail.

Prairies of Canada

These cover a triangular area between the Rockies on the west, the 49th parallel of latitude in the south, and a line from Edmonton to Winnipeg on the north-east. They are open and gently undulating, rising gradually towards the Rockies. On the north-east side they merge from open grassland into coniferous forest through a belt of lightly wooded country known as grove, as illustrated in Fig. 27.

The climate is one of extremes, with very low winter temperatures and heavy falls of snow, while the summers are hot. Rainfall is light, decreasing from 20 inches at Winnipeg to under 10 inches per annum in the west of Alberta, but the bulk of it falls in the summer. Warmth, sunshine and rain come together, and these are conducive to rapid growth. So the prairies have developed wheat production on an enormous scale. The wheat is sown in spring, and the ideal climatic conditions coupled with fertile soil, enable it to grow rapidly to maturity for harvesting in September. About 25 million acres are sown annually with wheat, Saskatchewan having the largest area, Alberta second and Manitoba third. Yields vary considerably from year to year according to the rainfall.

The continued growing of wheat for a large number of years, without restoring the fertility of the soil by rotation cropping and manuring, has had disastrous effects in many parts. Soil has been reduced to dust, allowing strong winds to blow away both soil and seeds. Mixed farming combining arable and pastoral farming to maintain soil fertility is, therefore, gradually

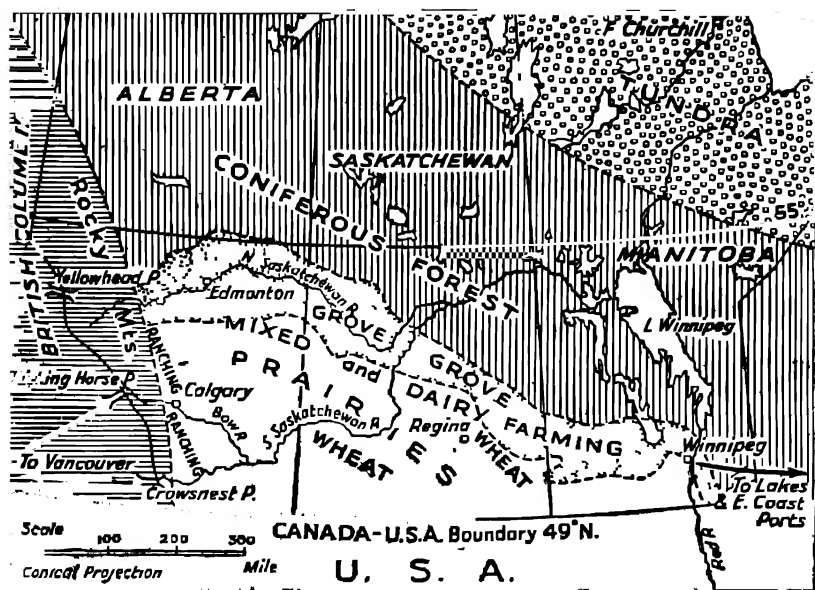


Fig. 27. The prairies of Canada and their products, showing the transition northwards through the grove and coniferous forest belts to the tundra

being introduced, but wheat still remains the chief product of the prairies. With a small population there is a vast surplus for export, and this moves to Vancouver, to the Lakes and east coast ports or to Fort Churchill, on Hudson Bay.

Other crops of the prairies are oats and barley, while in S.W. Alberta intensive irrigation farming is practised under C.P.R. scheme in the Bow River Valley.

Towards the Rockies the rainfall is not only too light but also too variable from year to year for crop production. Here ranching is carried on, Calgary being the principal centre.

Mineral wealth consists of coal in the Crows' Nest region of Alberta, oil and natural gas in the Turner River Valley of the same state. Coal is worked for local and railway use only, though the deposits are vast, and oil production was 7,000,000 barrels in 1938.

The Pampas

These consist of a vast area of deep alluvial soil—stoneless over wide areas—in the Argentine and Uruguay.

The fertility of the soil, its generally level nature for cultivation and for railway construction, the mild winters allowing outdoor grazing of cattle throughout the year, plentiful rainfall, nearness to the sea for export—all these factors have contributed to make this part of South America one of the richest agricultural regions of the world.

Cattle rearing for beef, maize and flax growing, are the main occupations of the wetter east, with sheep rearing and wheat growing predominating in the drier western parts of the interior.

A vast network of railways from all parts of the pampas converges on Buenos Aires in the Argentine, and on Montevideo in Uruguay, while Bahia Blanca is increasing in importance as an outlet.

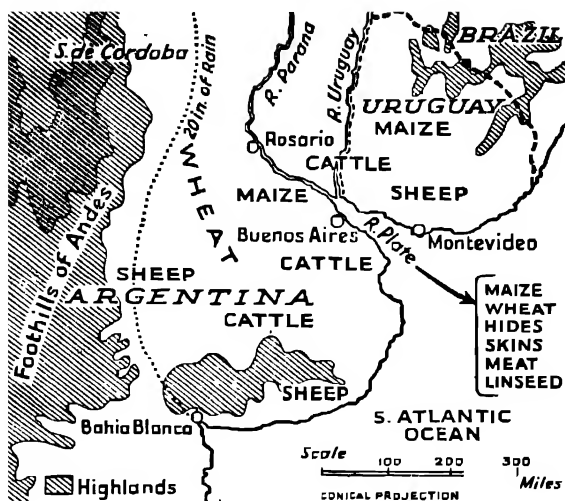


Fig. 28. The pampas of Argentina and Uruguay.

Industries in the pampas consist mainly in the preparation of agricultural produce for export. In this connexion most of the larger towns have refrigeration and meat packing industries.

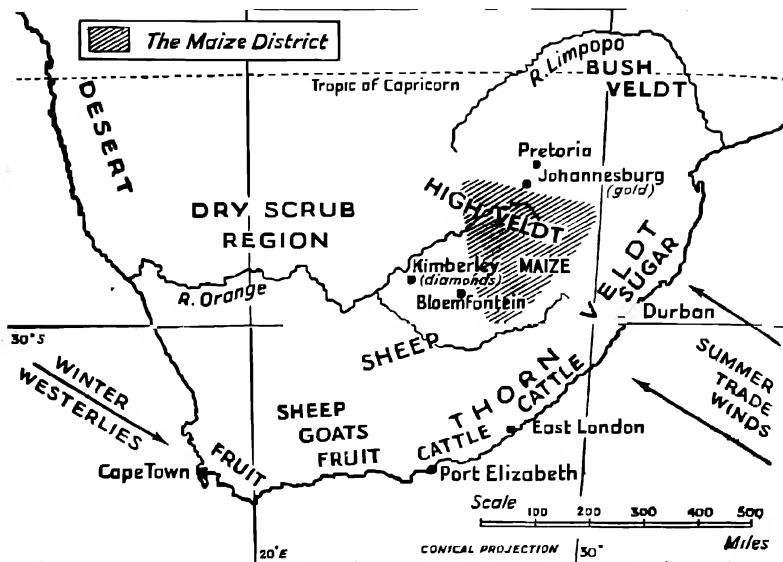
The Veldt of South Africa

South Africa consists of a vast plateau rising almost everywhere to over 4,000 feet and separated from the sea by a rim of highland. The most prominent part of this rim is the Drakensberg Mountains in the east, rising generally to over 8,000 feet, and in parts to over 11,000 feet.

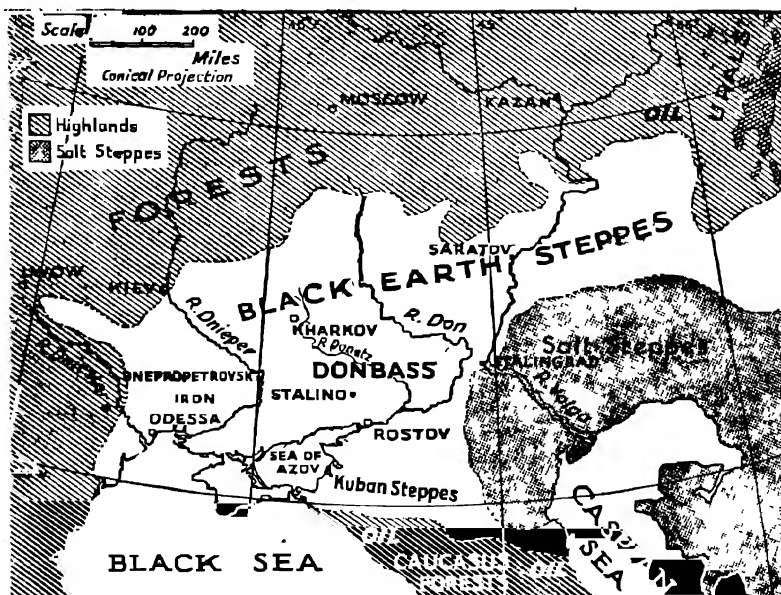
The altitude of the plateau reduces temperature, and makes the climate pleasant for Europeans. Summer is the period of greatest rain, but the plateau rim extracts much of the moisture from the S.E. trade winds, and the plateau itself receives only light rainfall, this decreasing to negligible amounts towards the west.

Soil conditions in South Africa are patchy, there being few extensive areas of good, deep and fertile soil as in the pampas, prairies or steppes. Consequently the veldt of South Africa is essentially pastoral, with cattle rearing in the wetter eastern parts and sheep and goat rearing in the drier parts. Wool is a major export of South Africa, which produces 7 per cent of the world's supply. While maize is grown generally in South Africa as a native food, where rainfall is adequate, the principal area of production is the so-called maize triangle (Fig. 29). Minerals are the most important source of wealth to South Africa, and the veldt produces gold, diamonds, coal and manganese.

Gold, constituting three-quarters of the value of South Africa's exports, is produced on the Rand; diamonds at Kimberley, Pretoria and in S.W. Africa; coal in the E. Transvaal and in Natal; manganese in the Cape Province.



Figs. 29 and 30. Maps illustrating contrasting types of temperate grasslands. Above : The veldt of South Africa. Below : The steppes of southern Russia.



The Steppes of Russia

This vast region extends in a great continuous sweep across southern Russia between the Black Sea on the south and the forest region to the north, through the lower courses of the Dniester, Dnieper, Don and Volga, and into Caucasia (Kuban Steppe), as shown in Fig. 30.

Towards the east, where rainfall decreases, the fertile steppe merges into scrub towards the Caspian.

The fertile soil of the black earth region and a climate similar to that of the Canadian prairies make this region one of the great granaries of the world, wheat being the principal crop. The production of wheat in a normal year equals the combined production of Canada, U.S.A. and Argentine, but in some years droughts reduce the yield and there may be a deficiency. In recent years the former peasant farms have been collectivized into large collective farms averaging about 1,600 acres each, and a high degree of mechanization has been introduced. The manufacture of tractors and harvesters is an important industry at Odessa, Kharkov, Rostov, Stalingrad and Saratov.

There is now no private trading in grain in the Soviet Union, as the Government controls the distribution and so guards against years of insufficiency by holding reserves from bountiful years.

Other crops grown in the steppes are barley, oats and sunflowers. Towards the east, where rainfall is inadequate for arable farming, pastoral farming is carried on.

Not only is this area rich agriculturally, but it contains vast supplies of vital minerals, and these have given rise to the great industrial area of the Donetz basin, known as the Donbass. Here heavy industries are carried on, using the coal of the Donbass, iron ore from Krivoi Rog, manganese from Nikopol, and oil piped from the Caucasus.

Temperate Grasslands of Australia

These lie on the inside of the mountain rim of S.E. Australia and extend from southern Queensland, through New South Wales and Victoria into South Australia. (Fig. 31.)

The governing factor for agriculture here is the distribution of rainfall, which decreases from 30 inches in the eastern highlands to less than 10 inches per annum towards the South Australian border. The eastern portion of these grasslands, i.e. the inside western slopes of the mountain rim, is therefore the most productive region. Here wheat growing and sheep rearing form the principal activity. Sheep are most numerous where the rainfall is between 20 and 30 inches and less numerous westward. New South Wales has over half the total number of sheep in Australia (over 114,000,000) or 16 per cent of the world's total sheep.

They are reared mainly for wool, and wool markets are held annually in the state capitals. Australia produces 27 per cent of the world's wool. By scientific breeding the average weight of a fleece has been raised from 4lb. in 1870 to more than 8lb., while prize fleeces may reach 30 to 40lb.

The area of greatest wheat production coincides approximately with the area of greatest sheep concentration, but the most important area of all is where the rainfall is approximately 20 inches per annum. This occurs in the Riverina district between the Murray and its tributary the Lachlan.

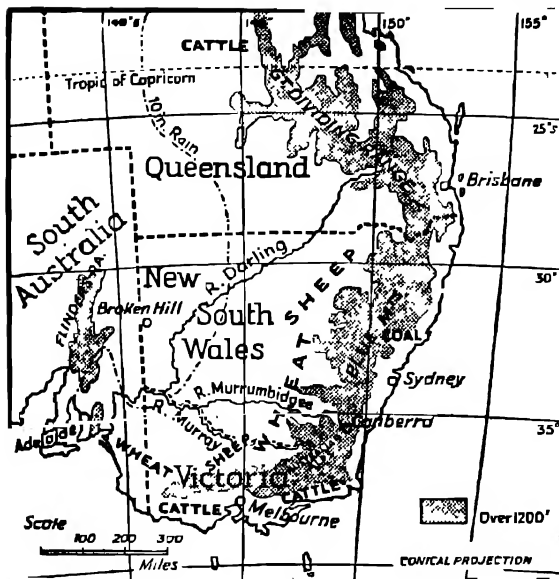


Fig. 31. The grasslands of the Murray-Darling Basin.

year, and the rainfall is conserved in the soil until next year when a crop is grown. Sheep run over the fallow to keep down weeds, and the soil is occasionally stirred to prevent undue loss of moisture during the fallow year.

Extensive control of the Murray River and its tributaries—the only perennial river system in S.E. Australia—and the building of reservoirs in their upper courses, have enabled the development of a number of prosperous fruit-growing centres, using irrigation methods to overcome rainfall deficiency.

The most important centre of mineral production in this area is Broken Hill, where deposits of silver, lead and zinc ores are exploited.

LESSON ELEVEN

MAJOR PRODUCTION REGIONS

(6) The Temperate Forest Belt

DECIDUOUS forests consist of oak, beech, elm, maple and ash, all of which yield strong, hard and durable timbers for building purposes. Such trees thrive in the moister and less extreme regions on the east and west margins of the cool temperate lands, where conditions of soil and climate are less rigorous than in the coniferous belt. The principal areas formerly covered by this type are the eastern part of the U.S.A. and southern part of the St. Lawrence basin in North America, and in Europe, the British Isles, and the great European plain from France to western Russia. (Fig. 32.)

Water supply is the chief problem in all agricultural activities in Australia, destructive droughts being common and bringing ruin to both arable and pastoral farmers. To overcome the deficiency of drinking water for animals, hundreds of artesian bores tap the underground water supplies, while to enable wheat to be grown in areas of light and variable rain, the method of dry farming is practised. By this method the land lies fallow for one

The original forest covering has largely disappeared, as trees have for centuries been felled to provide timber for building houses, making furniture, and for shipbuilding, as well as to clear the land for cultivation. Few continuous stands of deciduous trees now remain; among those best known are Epping Forest in Essex, and Savernake Forest in Wiltshire.

Coniferous forests lie immediately south of the Tundra, which is mostly within the Arctic Circle, and extends in an unbroken stretch round the northern hemisphere, except where oceans and seas intervene.

Coniferous trees are adapted for rather rigorous conditions of climate and soil. Temperature conditions vary with latitude, altitude and distance from the sea, and a wide variety of conditions is found in this forest belt. On the whole, the winters are severe, with heavy falls of snow, while the summers are quite warm. Soils vary too, from the thin layers on mountain sides affording little scope for deep rooting, to the poor thin glacial soils covering most of northern Canada and Eurasia. Trees must therefore be adapted to withstand such hard conditions. Coniferous trees have shallow roots, while their tapering trunks and needle leaves afford little grip for strong winds. They are frugal in their demands on the soil and are slow growing.

Exploitation of Coniferous Forests

Timber is an important requirement in the modern world, and stands of soft woods are a valuable natural asset to meet the world demand for timbers for constructive work, as well as for pulp and its derivatives.

In general the exploitation of forests is assisted by (a) nearness to the coast or to navigable rivers for export; (b) the existence of suitable rivers for floating logs to saw mills, and for generating electricity; (c) snow for facilitating haulage of logs to riverside in winter.

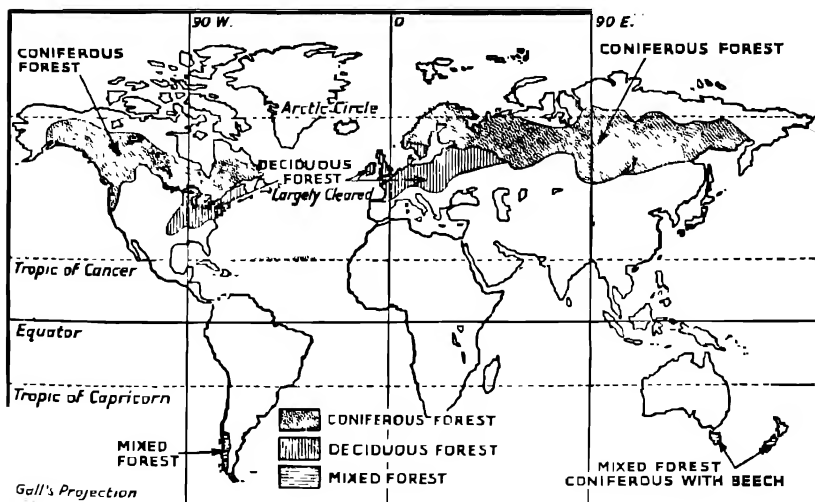


Fig. 32. Map illustrating the major temperate forest regions of the world.

The coastal districts of the western U.S.A., British Columbia and Alaska in North America, are ideally situated for exploitation—so too are the forests of Quebec, Ontario and Newfoundland—but vast areas of the Canadian forests are at present too remote to warrant extensive development of timber industries. In Europe, the forests of Norway, Sweden, Finland and Russia offer scope for exploitation by virtue of the conditions stated above—but in Soviet Asia vast areas are inaccessible at the moment, as the huge rivers of Asia empty into a sea that is icebound for many months. This disability, however, is gradually being overcome by the provision of icebreakers which keep the sea routes open for several months.

Timber Products. The coniferous forests are the chief source of timbers for all building and constructive work, for the manufacture of plywood, and similar products, together with pulp for making paper and cellulose, used in the chemical and rayon industries. Among the principal trees are larch, spruce, pine, fir and hemlock.

The chief exporters of timber are Sweden, Russia, U.S.A., Canada, Finland and Norway. All these countries export pulp too, with the exception of the U.S.A., which imports large quantities from Canada and Newfoundland.

Other Forest Products. The temperate forests are the haunts of many fur-bearing animals such as the silver fox, white fox, muskrat, beaver, etc. Fur-trapping is therefore an important industry, and in Canada alone the total value of raw pelts amounted to 5½ million dollars in 1941. Annual fur sales are held at certain centres to which buyers come from all over the world—e.g. at Montreal, Winnipeg, Edmonton and Vancouver in Canada, and at Gorki in Russia.

Continuous trapping, together with the encroachments on the forests due to timber-felling and the advance of agriculture, have reduced both the number of animals and their natural habitat. This has led to the breeding of fur-bearing animals in captivity, on a large scale. In Canada alone there are over 9,000 fur farms, mainly fox farms, and they produce some 46 per cent of the total value of Canadian furs.

Another product of considerable importance in Canada is maple-sugar, produced by tapping the juice of the maple tree, chiefly in the province of Quebec.

A variety of minerals is produced over widely scattered areas of the forest belt, e.g. gold, nickel, copper, radium, cobalt in Canada, iron ore in Sweden (Dannemora), gold (Lena goldfields) in Siberia, coal and oil (Pechora Basin) in Russia. Russia has also vast coal reserves in the Siberian forests.

LESSON TWELVE

THE BRITISH ISLES

THE economic and commercial development of the British Isles has resulted from a number of important geographical factors :

Position. Britain's position on the margin of western Europe places her in the path of all the principal trade routes which link western Europe with all the major producing areas of the world, especially North America and the Far East. This has not only facilitated the supply of foodstuffs and

raw materials and the distribution of her manufactured goods, but has also resulted in the establishment of a valuable entrepôt trade.

Climate. The temperate climate, without extremes of heat and cold, makes all types of work possible throughout the year and provides the most favourable conditions for energetic, efficient and progressive human effort.

Island Environment. Britain's long coastline, deep estuaried rivers for shipping, proximity to valuable fishing grounds and her need for overseas trade, have made her a first-class seafaring nation. Apart from her own important fishing industries and overseas trade, Britain's Merchant Navy acts as carrier for the goods of many other nations and its great services earn a considerable part of the nation's revenue. Further, her people have spread by sea to all parts of the world and established themselves in that great variety of overseas possessions, the British Empire.

Natural Resources. The lead which Britain gained in manufacturing industries and in world commerce was dependent on the factors dealt with above, but also resulted from her great wealth of coal, iron and other minerals. With her vast resources of coal for industrial power, Britain developed a great variety of manufacturing industries, and it is to the development of her natural resources and these industries that we must now turn.

Natural Resources of the British Isles

Farming

Much of British farming is mixed, crop growing and pastoral industries being carried on together on mixed farms, but climate and soil conditions will determine whether the crop growing or the pastoral industries predominate, as the following diagram indicates :

	<i>Wetter West</i>	<i>Line of 30 in. of rain</i>	<i>Drier East</i>
PLAINS	Wet plains on the west— good soils—long rich grasses: CATTLE, STONE AND LARGER FRUITS		Dry plains on the east— good soils: CROPS AND SOFT FRUITS
HILLS	Wet hills on the west—hard rocks—thin poor soils— short grasses: SHEEP		Dry hills on the east—dry poor soils—short grasses: SHEEP

The cattle farmer of the west has most of his farm under permanent grass for his cattle, but also grows oats, barley and root crops to provide winter feeding and bedding. The crop farmer on the east grows a variety of crops on a rotation system, wheat, barley, clover, sugar beet and other root crops, but keeps cattle and sheep to consume some of these crops and to provide manure with which to maintain the quality of his arable land.

Cereals. Wheat requires warm sunny weather for harvesting, rainfall that is not too heavy (20 to 30 inches), well drained light clay soil and land that is flat for the use of large machines. The principal wheat production is therefore on the plains of eastern England. (Fig. 33.)

Barley grows under similar conditions to those of wheat, but can ripen under lower temperatures and so grows not only in the wheat areas in rotation, but also further north on the plains of eastern Scotland.

Oats grow under damper and cooler conditions and production is therefore very widespread.

Sugar Beet has become a very important crop, especially in the eastern plains where

it plays a valuable part in crop rotation, provides green tops for animal fodder and yields an immediate cash return.

Fruits are widely grown in the British

Isles but some areas specialize in particular types (Fig. 34). Small fruits, such as strawberries, cherries, raspberries and gooseberries, which require a dry picking period and are quickly perishable, grow mainly in the east in regions near the larger urban centres in which they are marketed. South-east England and Lincolnshire in England, and the Carse of Gowrie near the industrial areas of central Scotland, are examples.

Apples and pears do

Fig. 33. Chief wheat-growing areas of the British Isles.

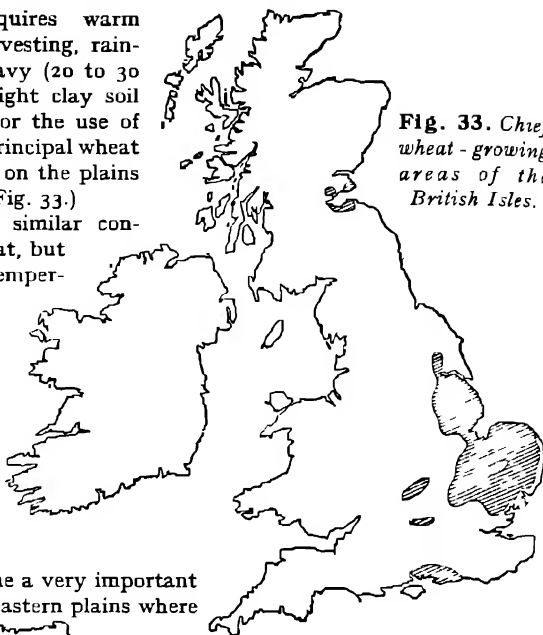
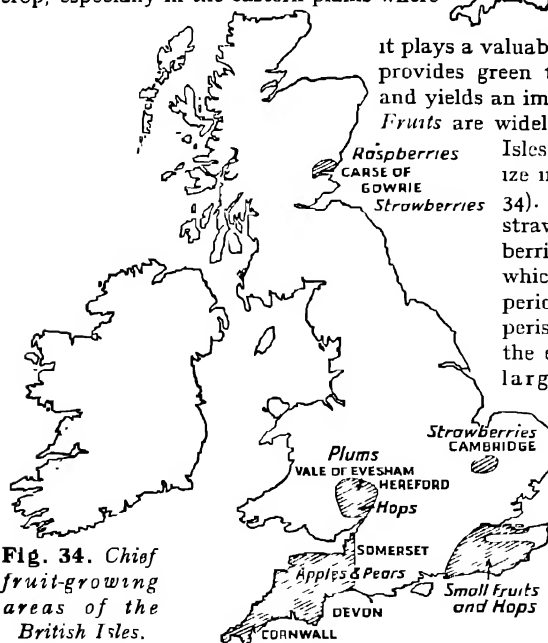


Fig. 34. Chief fruit-growing areas of the British Isles.



well in the south-west—Devon, Cornwall, Somerset and Hereford—where important cider manufacture is carried on. The Vale of Evesham is especially important for plums.

Market Gardening. The larger scale production of vegetables is carried on in all areas near large urban populations to which the produce can be easily and quickly transported, and in certain areas, especially Devon and Cornwall, where the mild climate conditions make very early production of vegetables and flowers possible.

Cattle. Dairying is especially important in the wet plains of the west, with their rich grasses, mild winters and cool summers. Much liquid milk is supplied to the larger

industrial and urban areas, while much is made up into such products as cheese, butter and cream. The plains of Cornwall, Devon and Somerset, the lowlands of Wales and of the Solway Firth area, Ayrshire, Cheshire and central Ireland are the principal areas.

Beef cattle are important in the Midland plain, the Vale of York, the Vale of Strathmore in Scotland and the agricultural districts of eastern England and Scotland. (Fig. 35.)

Sheep are reared on all the upland areas of the British Isles, where the thin soils yield short grasses. The principal regions are the uplands of Scotland, the Pennines and Cumbrian

mountains, the Welsh uplands and the scarplands of south-east England

Fig. 35. *Chief cattle-rearing areas of the British Isles.*

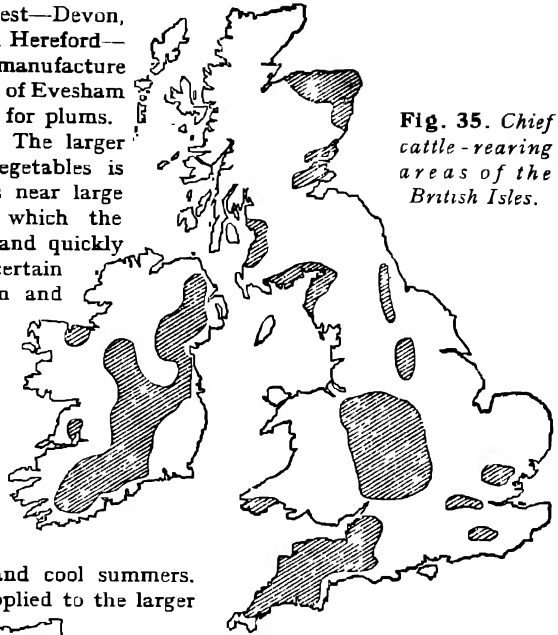
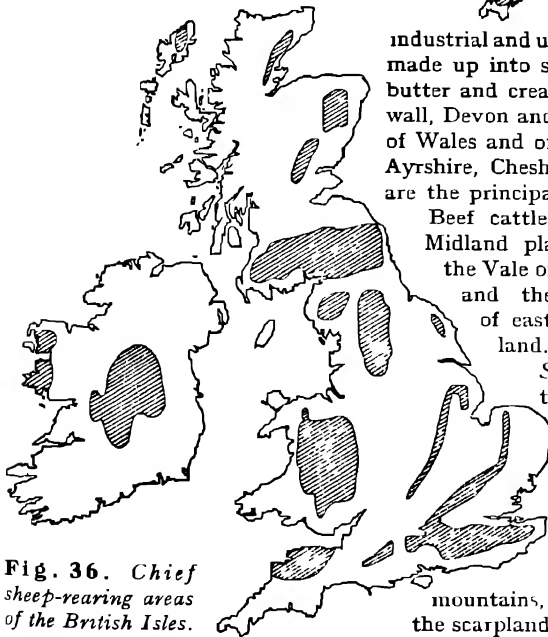


Fig. 36. *Chief sheep-rearing areas of the British Isles.*



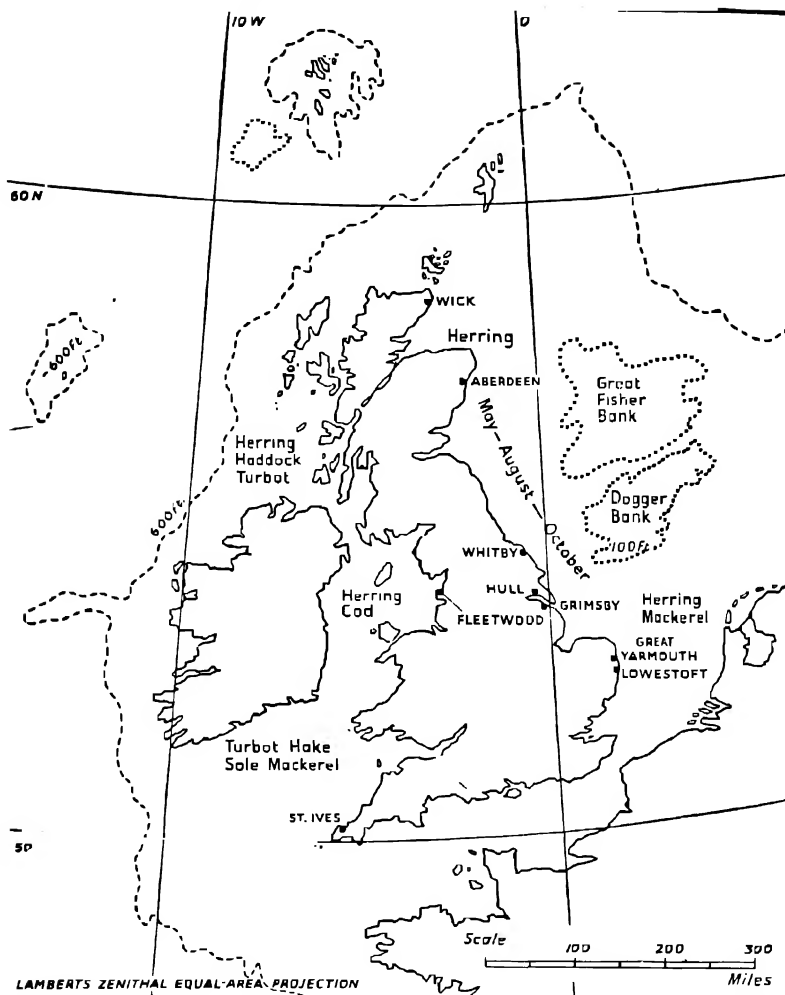


Fig. 37. *The main fishing grounds and ports of the British fishing industry. The broken line marks the extent of the Continental shelf.*

Fishing

The shallow waters of the Continental shelf, on which the British Isles stand, and especially of the banks of the North Sea, are the feeding grounds of a great variety of fishes and these areas, together with the more distant fishing grounds off the Faroes, Bear Island and Iceland, are the chief fishing areas.

The British fishing industry ranks as the sixth most important of Britain's industries and is the second largest in the world.

The *herring fisheries*, mainly located in the North Sea, are the most important of the fisheries and account for about 50 per cent of the total catch. Drifting consists of the use of a net of small mesh attached to floats, which is lowered to the depth where the shoals are to be found. The herrings are used in many ways, large quantities being distributed as fresh herrings, bloaters, herrings and kippers. The principal herring ports are Wick, Peterhead and Aberdeen in Scotland and Yarmouth and Lowestoft in England.

In *trawling*, a large triangular shaped net, open at the mouth end and tapering down to what is known as the cod end, is used and is dragged along the bottom of the sea. This method is employed for sole, plaice, brill, whiting, cod, hake and halibut. A large fleet of modern trawlers operates all the year round from Aberdeen, Hull, Grimsby and Lowestoft, and fishes in the cold waters of the north off the Faroes, Bear Island and Iceland.

Apart from the home market, large quantities of fish are salted and cured for export, especially to the Catholic countries of Europe.

Among the lesser fisheries are those for crabs, lobsters, etc., which are carried on all round the coasts, and especially noted are the oyster fisheries, for which Colchester and Whitstable are the leading centres.

Coalfield Areas

Coal is one of the corner-stones of Britain's commerce and industry. The principal manufacturing areas have grown up around the coalfields. Coal is one of the largest export trades and, in addition, provides fuel for the vast British Merchant Service.

Coalfields and Manufacturing Areas. The following tables give a grouping of the major coalfields and show the manufactures and towns in each.

PENNINE AREA	<i>Coalfield</i>	<i>Manufactures</i>	<i>Chief Towns</i>
	NORTHUMBERLAND	a. Shipbuilding	Newcastle, Jarrow,
	AND	b. Coal Export	Gateshead, Sunderland
	DURHAM	c. Chemicals	Billingham
	YORK, DERBY	a. Woollens	Bradford, Halifax,
	AND	b. Iron and Steel	Huddersfield
	NOTTINGHAM	c. Textile and Hosiery	Batley, Dewsbury, Wakefield, Sheffield
	CUMBERLAND	Coal Export	Nottingham
	SOUTH LANCASHIRE	Cotton	Maryport, Whitehaven
			Bolton, Oldham, Bury,
			Blackburn, Burnley, Accrington

	<i>Coalfield</i>	<i>Manufactures</i>	<i>Chief Towns</i>
WALES	SOUTH WALES	a. Metal Industries (Iron, Tin, Nickel) b. Coal Export	Merthyr Tydvil, Dowlais, Swansea, Llanelli Cardiff, Barry
	NORTH STAFFORD	Pottery	Stoke-on-Trent
MIDLANDS	SOUTH STAFFORD	Metal Industries	Birmingham, Wolverhampton, Walsall, Dudley, West Bromwich
	WARWICK	a. Cars and Cycles b. Hosiery and Silks	Coventry
	LEICESTER	Boots, Shoes, Hosiery	Leicester
	AYRSHIRE	a. Coal Export b. Engineering	Ayr, Troon, Ardrossan Kilmarnock
SCOTLAND	LANARKSHIRE	a. Iron and Steel b. Shipbuilding c. Cotton	Motherwell, Airdrie, Coatbridge Port Glasgow, Greenock, Dumbarton Paisley
	CENTRAL FIFESHIRE	a. Coal Export b. Linoleum	Methil, Burntisland Kirkcaldy
	MIDLOTHIAN	a. Coal Export b. Paper, Books, etc.	Leith Edinburgh

Coal Exports. Britain became a large exporter of coal for a number of reasons :

The presence of coalfields near the coast ; proximity to countries with no coal or insufficient for their needs ; coal provided a return cargo for many ships bringing goods from abroad.

In recent years there has been a decrease of exports due to a loss of markets on account of high British prices, the development of other forms of power

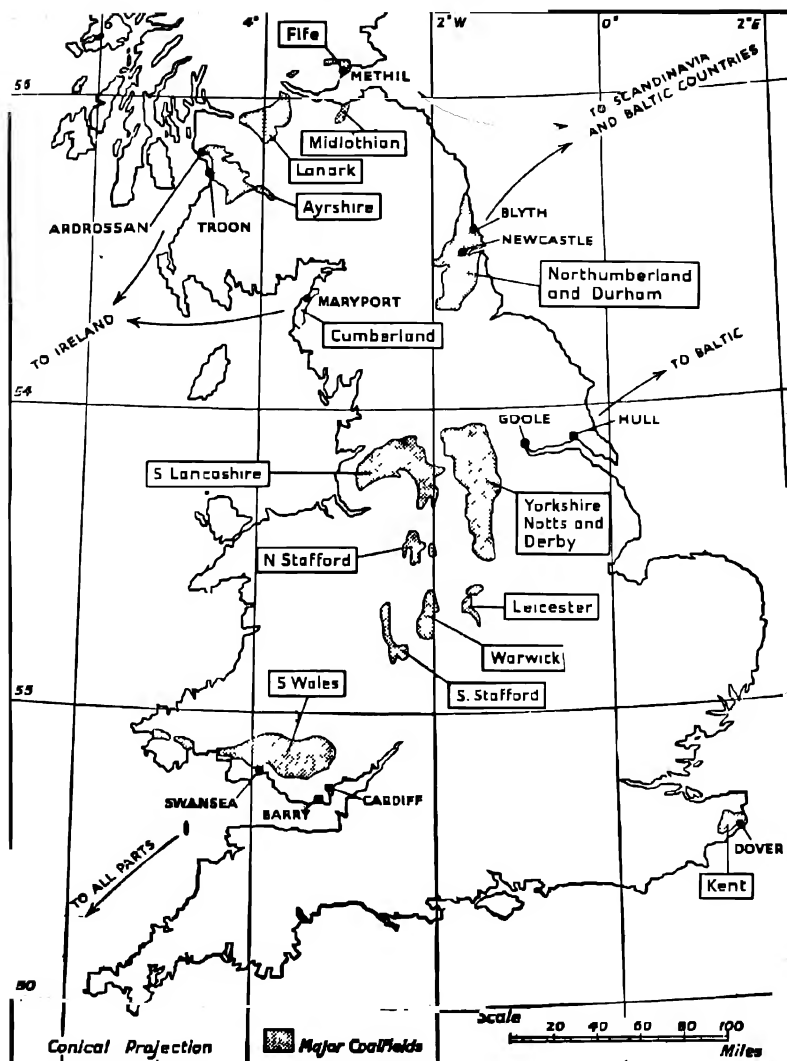


Fig. 38. The major coalfields of Britain and the ports associated with them.

such as hydro-electricity and the use of oil for ships and a greater development by other countries of their own resources.

On the map above the principal exporting fields and ports are marked and arrows indicate the general direction of the trade.

MAJOR TEXTILE INDUSTRIES OF THE BRITISH ISLES

*The Cotton Industry***South-east Lancashire**

THE principal centre of the cotton industry is South Lancashire where an important woollen industry originally existed based on the wool of the Pennines and the supplies of soft water from the Pennine streams for washing. With the introduction of cotton, goods made of cotton and wool were produced because of the difficulty of using the cotton fibre alone but the improved methods of spinning and weaving brought in during the earlier period of the Industrial Revolution made specialization in the manufacture of all-cotton goods possible. Other factors, water supplies and later coal for

power, the damp climate and its position on the west for the import of raw cotton from America, have also contributed to the expansion of the industry in this area.

The industry has become highly organized and there is a high degree of specialization both in processes and products.

1 Spinning The principal spinning centres situated in the valleys where the damp atmosphere is favourable to this process form a semi-circle round Manchester. BOBRASS will help to identify

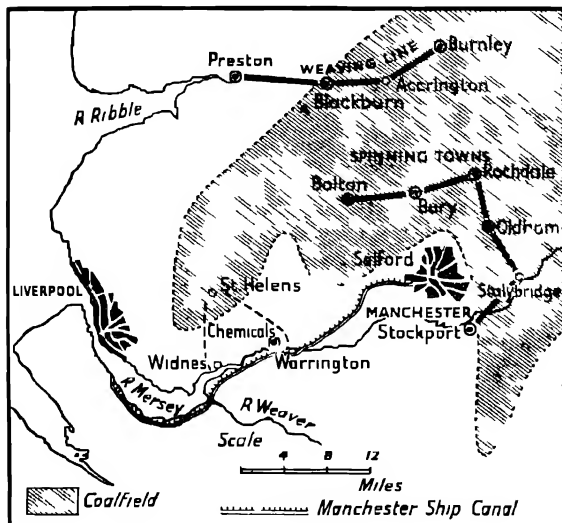


Fig. 39. *The cotton area of south-east Lancashire*

them as Bolton, Oldham, Bury, Rochdale, Stockport, and Stalybridge.

2 Weaving The weaving centres stand on the northern edge of the coalfield in the Ribblesdale. They are Preston, Blackburn, Accrington, and Burnley.

3 Bleaching, dyeing and printing centres are situated where plentiful supplies of soft water are available. Chemicals for these processes, using the abundant supplies of salt of Cheshire, are produced especially at St. Helens and Widnes.

4 Marketing Manchester, "Cottonopolis," is the great market and exchange centre. Accessible by ocean-going vessels through the Ship Canal.

and standing in a central position, Manchester has become the collection centre not only for the raw cotton and its dispatch to the various centres, but also for the finished goods and its exchange is the great mart for all cotton transactions.

5. *Shipping*. Liverpool handles about half, and Manchester about one third of the total British export of cotton goods.

6. *Machinery* is manufactured in nearly all of the cotton manufacturing centres but chief among them are Salford, Oldham and Wigan. In addition to supplies for the local market, there is a considerable export, especially to India and the Far East.

The tendency in the industry is to specialize in the production of the finer cotton goods because of the difficulty of competing with native Indian and Japanese production of the cheaper cotton fabrics and the resulting loss of markets for these goods.

These foreign competitors with their own raw materials, cheaper power and cheaper labour on account of their lower standard of living, combined in the case of the Japanese industry with its first class organization, are able to produce much more cheaply than we can.

Our two main assets are a well organized and highly developed industry and a higher degree of technical knowledge and traditional skill, both of which must be exploited to the full in making from the higher grade American and Egyptian fibres the finer, more finished and more expensive fabrics.

Minor Cotton Manufacturing Areas

1. *The Glasgow District*. This area has the same natural advantages for cotton manufacture as Lancashire. (a) Supplies of coal and iron for power and machinery ; (b) position on the west with its resulting damp climate and a good gateway for the import of American supplies of raw cotton. Glasgow, besides being the chief market centre for the whole area, has extensive cotton industries of which muslin is a particular one. Paisley is important for its large cotton thread industry and is the largest world producer of sewing cotton.

2. *The East Midlands*. This region, in which the principal centres are Nottingham and Derby, is important for lace and small wares. Nottingham is the seat of the machine lace industry, making curtains, nets, and edgings. It also makes cotton knit goods, hosiery and fabric gloves. Small wares, including tapes, braids, shoe laces and a wide range of similar articles, are manufactured over a wide area, but Derby is the largest single centre.

The Woollen Industries

The woollen industry is an old established one and originally was scattered throughout Britain around the margins of the uplands which formed the principal sheep walks and where plentiful supplies of soft water were available for the washing of the wool.

With the Industrial Revolution, the use of coal for power and of large scale machinery, those areas on or near coalfields expanded at the expense of the others, so that to-day more than 70 per cent of the output is from the West Riding area of the York, Derby and Nottingham coalfield, where Leeds, Bradford, Halifax and Huddersfield are the principal centres.

The West Riding

The original factors accounting for the development of the woollen industry in this area were :

1. The supplies of raw wool.
2. The supplies of water from the Pennine streams for power and for wool washing.

The rapid expansion of the industry here was due to the presence of coal for power and local iron ore for the manufacture of machinery. To-day very little local wool is available and the bulk is imported from Australia and Argentine through London, which is still the chief wool port and market in the country.

The chief woollen centres are situated between the Rivers Aire and Calder, where the Pennine streams drain from the millstone grit moorland and the water is soft in contrast to waters of the streams further north and south from the limestone moorland. This is the chief reason for the location of the industry in this particular part of the coalfield area.

Leeds is the chief city of the region. In addition to its large ready-made clothing industry, it serves as an important distributing centre for woollen goods.

Bradford is the chief commercial centre and local wool market and also the principal centre for worsted goods and for the better cloths such as serges, which are made from the longer fibred wools.

Of the other towns, Halifax specializes in carpets, rugs and blankets, Huddersfield in high quality suitings and Batley and Dewsbury in shoddy cloth goods, remade from waste woollen fabrics.

Smaller Woollen Manufacturing Areas

1. *The Tweed Valley.* This area owes its original importance to local supplies of wool and soft water. It now has to import its coal supplies for power from the Lanark, Midlothian or Northumberland and Durham fields and to meet this disadvantage specializes in goods of exceptionally high quality, especially tweeds and knitted goods, for which the high quality wool required has to be imported.

Hawick, Galashiels, Peebles, Selkirk and Jedburgh are the chief centres of the industry.

2. *West of England.* The industry here survives in a number of small towns such as Stroud, Bradford on Avon and Trowbridge, where the famous broadcloth and uniform cloths are still made.

Other centres with specialized industries are Witney (blankets), Chipping Norton (whipcords) and Wilton (carpets).

3. *Leicester,* standing near the Leicester coalfield and in an area famous for its long-woolled sheep, manufactures every kind of knitted goods, which include such articles as socks, stockings, jumpers, knitted suits, etc. In addition to these woollen goods, Leicester has old-established leather and brewing industries.

4. *Specialized products,* important in scattered areas in mountain regions, include the " Newtown " flannels of Wales, and the homespuns, especially the Harris tweeds of the Hebrides and the Highlands of Scotland and the Donegal tweeds of N.W. Ireland.

LESSON FOURTEEN

MINOR TEXTILE INDUSTRIES OF THE BRITISH ISLES

The Linen Industry

THE chief products of this industry are lawns, cambrics and damasks, while the coarser fibres are utilized in the manufacture of ropes and canvas.

Flax, which provides the fibre for the linen industry, has been grown in the British Isles for centuries. A colony of linen weavers settled in London in the reign of Edward III, and at subsequent times groups of refugees from the continent have settled here, bringing fresh methods and new ideas.

The industry remained a domestic one for centuries, and suffered from competition from the wool and cotton industries. It is now confined to Ulster, the eastern part of the Central Lowlands of Scotland, and Manchester.

Production of Flax and Manufacturing Processes. Flax requires a moist soil and a temperate climate. The principal flax producing areas are Northern Ireland, Belgium and the Baltic countries (Latvia, Lithuania, Estonia and Russia). These continental countries are the chief sources of fibre in normal times, but during the war of 1939-45 there was a widespread revival of flax growing in Great Britain, sufficient to meet the requirements of the restricted linen industry.

Preparation of flax fibre for manufacture is done in the following stages :— Retting in water to soften the stems and facilitate removal of fibres ; scutching or beating, to remove the woody part of the stem ; combing ; spinning into yarn ; weaving.

For certain purposes the yarn is used in an unbleached state, e.g. for canvas, duck, drills, while for more refined use it is bleached chemically before being woven. Grass bleaching, by exposing the fabric to the sun's rays, on grass, is still practised in Ireland, but chemical bleaching is quicker and more common to-day.

Centres of Industry in British Isles. Ulster with its home grown supplies of flax, plentiful labour (largely women who cannot be employed in the heavy shipbuilding industry), suitable river water for retting, and coal supplies readily available from the Ayrshire coalfield, has become the principal seat of the linen industry.

Other British centres are : Kirkcaldy, Dunfermline (damasks), Dundee, Forfar, Manchester, Leeds.

Other Textiles

Jute is produced almost exclusively in the Ganges delta region of India. It is a swamp loving plant, and the preparation of the fibre for manufacture is similar to that of flax. The fibre is a coarse one and is used chiefly in production of gunny cloth for making sacks, and for manufacture of matting.

In recent times the tendency has been to make more and more sacking at Calcutta, where upwards of 250,000 people are employed in this vast industry, which monopolizes the world market for sacking.

In the British Isles, Dundee is the chief centre of the jute industry, and its products include sacks, sacking, matting, sailcloth and cordage. The linoleum industry of Kirkcaldy absorbs a considerable quantity of jute fibre.

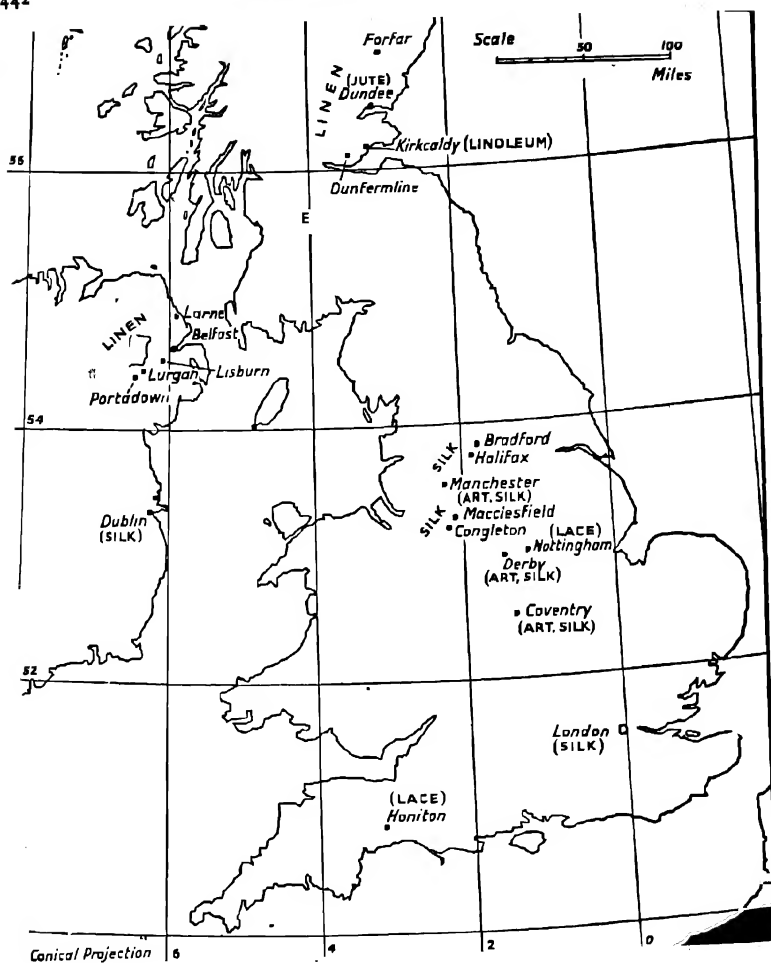


Fig. 40. Map illustrating minor textile industries of the British Isles.

The Silk Industry. Like other textile industries, the silk industry owes much to groups of refugees from the continent, who have settled in this country at various periods.

At different times Norwich, Colchester, Macclesfield, Coventry, Canterbury, Nottingham, Derby, Dublin, Paisley, Spitalfields (London), Braintree, and many other lesser known towns have had thriving silk industries, but the abolition of duties on imported French silks in 1860 caused a rapid decline, and in some cases the extinction of the industry.

At present the chief centre of the silk industry is south-east Cheshire and north-west Staffs, at Macclesfield, Congleton and Leek, where the Pennine streams supply suitable water for fine finishing and dyeing.

Other centres are Bradford and Halifax in the West Riding, Manchester, Dublin, Glasgow and London.

The chief sources of supply of the raw silk needed by the industry are Japan, China, Italy and Korea.

Artificial Silk or Rayon. This industry is really a combination of the chemical and textile industries. The preparation of the fibre is the province of the chemist, who produces the fine artificial silk fibre by the action of chemicals on wood pulp, sawdust or cotton waste. The spinning and weaving of the yarn are carried out by the textile industry. The centres of the industry are widespread, but they have tended to arise near the old established textile areas, where new mixed fabrics have been produced using rayon in conjunction with cotton and wool.

Among the chief rayon centres are Coventry and Derby, while towns in Lancashire, Yorkshire and Cheshire are engaged in the production of fabrics incorporating rayon.

Lace has been made at Nottingham since the 16th century, but it was not till the 19th century, when machinery was adapted to enable patterns to be produced mechanically, that a factory industry developed.

Other centres are Chard and Honiton in the West of England; Newmilns and Darvel in the Irvine Valley of Ayrshire in Scotland.

Other Textile Fibres. Among these we may include varieties of hemp, such as soft or European hemp obtained from the stalk of the hemp plant, like flax, together with harder fibres obtained from the leaves of tropical plants, e.g. manila hemp from the Philippines, sun hemp from India, sisal hemp from East and West Africa, also phormium from New Zealand.

These fibres are used in conjunction with tow (the coarser parts of flax) for making rope, twine, canvas and sacking.

LESSON FIFTEEN

NON-TEXTILE INDUSTRIES OF THE BRITISH ISLES

The Iron and Steel Industry

THE location of the important iron and steel manufacturing areas in the coalfield areas was originally due to the use of coal and later coke for smelting and the proximity of blackband iron ores and of limestone, used as a flux, to the coal areas.

To-day these local supplies of iron ore are mainly exhausted and the industries now use supplies of pig iron brought from other regions or imported from abroad. The principal iron ore producing regions of Great Britain now are the centres along the limestone escarpment stretching from the Cleveland Hills in north Yorkshire through Lincolnshire and Northampton to Oxfordshire, which produce about 85 per cent of home iron supplies. These home supplies are supplemented to a considerable extent by foreign supplies from Sweden, Spain and Algiers.

The type of iron and steel industries in particular regions will depend on :

1. The quality of the ores. High grade ores will be used to produce high quality steels as in the case of the Swedish ores at Sheffield.
2. Local features such as (a) deep estuaried rivers for shipbuilding as the Tyne, Wear and Tees in the north-east region and the Clyde in Central Scotland ; (b) supplies of special materials such as millstone for grindstones for the Sheffield cutlery industry.
3. Position in relation to supplies of raw materials and markets.

Where the cost of transport is high, there will be specialization in goods needing little raw materials, small in bulk but high in value as in the industries of Birmingham.

4. The needs of local markets such as for marine engines, agricultural implements and textile machinery.

Iron and Steel Centres of the British Isles

The Sheffield Area. The iron history of this area is an old-established one built up on local supplies of iron ore, charcoal for smelting, fast flowing rivers for power and limestone for flux. The supply of millstone grit for grindstones early led to specialization and to-day Sheffield, using high grade ores from Sweden, is famous for its cutlery, knives, scissors, machine tools, surgical and scientific instruments. The development of these and other similar industries has followed the advance in the manufacture of alloy steels, which are made by mixing steel with certain alloys such as manganese, tungsten and chromium possessing special qualities such as hardness and rustlessness.

Other towns in the Don Valley are Rotherham, Chesterfield and Doncaster, one of the L.N.E.R. locomotive centres.

Further south is Derby, a centre for L.M.S. locomotives and for motor car manufacture.

The Black Country. This area includes the industrial centres of south Staffordshire and north Warwickshire. Originally it was one of the largest smelting regions but the exhaustion of local iron ore and coking coals has caused a considerable decline of smelting. This factor and the inland position of the region, which involves expensive land transport both for raw materials and finished articles, have resulted in the development of special features in the industries of this area :

1. Specialization in goods small in bulk and high in value, in which the high value is due to the skilled workmanship.
2. The development of other metal industries, including zinc, copper, nickel, lead, aluminium, alloys, such as brasses, and precious metals, gold, platinum and silver for jewellery.
3. Specialization in particular towns, e.g. Dudley (chains), Wolverhampton (locks and keys).

In addition to Birmingham and the other towns mentioned, Walsall, Wednesbury, and West Bromwich in the South Staffordshire area, and Coventry, the centre of the car and cycle industries on the Warwickshire coalfield area, are important.

South Wales. The earlier iron industries in this region were centred in the towns along the northern edge of the coalfield : Aberdare, Merthyr Tydvil, Dowlais and Ebbw Vale where local iron, limestone and coal provided all the

necessities. To-day most of the iron ore is imported from Spain and Algiers and the smelting industries have become centred in the ports of Swansea, Cardiff, Newport and Port Talbot.

Other metal industries using imported ores have also become important, especially tin plate and nickel. Tin plating, chiefly centred at Swansea and Llanelly, consists of covering sheets of iron with a thin layer of tin to prevent rusting.

Northumberland and Durham. The Cleveland iron ores feed important smelting industries at Middlesbrough and other Teesside centres, but the chief industries of the area are shipbuilding and associated industries. The supplies of coal, the deep estuaried rivers of the Tyne, Wear and Tees, its position in relation to timber and iron supplies of Scandinavia make this area second only to the Clydeside region for shipbuilding.

The principal centres are :

Tyneside, Newcastle, Gateshead, Jarrow, N. and S. Shields
Wearside, Sunderland.

Teesside, West Hartlepool, Middlesbrough.

Darlington is a locomotive centre for the L.N.E.R.

Central Valley of Scotland. In this region we can distinguish two main groups of industries and towns :

The manufacture of heavy iron and steel goods—steel girders, bridges and heavy machinery—the chief centres for which are Motherwell, Airdrie, Wishaw, Hamilton and Coatbridge.

The shipbuilding of Clydeside. Although not on the coalfield, the shipbuilding industry has grown up on the supplies of coal and iron from it. Along the deep estuaried, well-sheltered Clyde the largest shipbuilding industry of the British Isles has developed. Some of the chief centres are Clydebank, Dumbarton, Port Glasgow and Greenock.

There are a number of associated industries, especially those grouped as marine engineering.

Glasgow, itself a vast engineering centre, is the metropolis of the region and has a great many other industries, especially textiles.

Chemical Industry

The manufacture of a vast number of substances in every day use, such as soap, soda, baking powder ; the fine chemicals and drugs supplied by every pharmacy ; the metals used in such variety to-day ; the paints and varnishes ; the fertilizers, plastics and explosives, to name but a few—all these are the products of the chemical industry.

The industry may be divided into four main groups :

1. *Heavy Chemicals* include the acids hydrochloric and sulphuric, needed in the production of many other compounds, caustic soda, washing soda, baking powder, bleaching powder, etc. Sodium chloride or common salt is the basic raw material for this branch of the industry, which has therefore been localized near deposits of salt, viz. along Merseyside near the Cheshire salt deposits and at Billingham-on-Tees near the Port Clarence deposits. (Figs. 41 and 42). It should be noted that both areas have definite advantages for the production of heavy chemicals. These are : (a) nearness to supplies of salt and of coal, (b) nearness to the sea for import of materials from abroad and for export

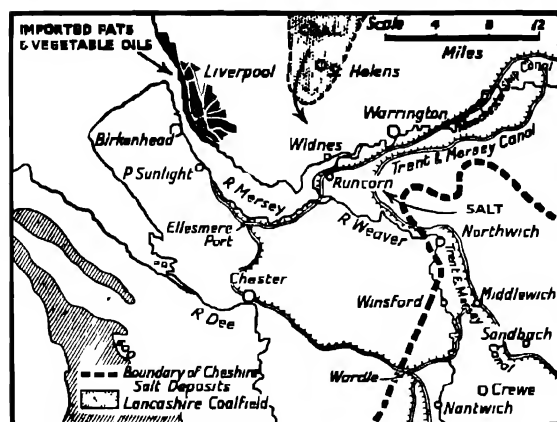


Fig. 41. The chemical industry of Merseyside.

tar is a product from gas works, but in recent years other processes have been invented for the extraction of chemicals from coal. Since elaborate machinery and apparatus are required, the tendency is to centralize the distillation of coal tar at a few points, such as London, Huddersfield, Manchester, Birmingham and Glasgow. Among the more important developments recently are the establishment of huge works at Billingham-on-Tees and at Bolsover in Derbyshire.

3. *Electro-chemical Products.* Electricity is used more and more in chemical processes to-day because of the high temperatures obtainable. This branch

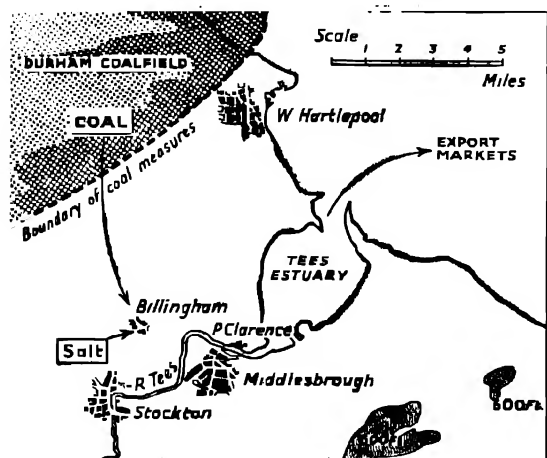


Fig. 42. The chemical centre of Billingham-on-Tees.

of finished products, (c) nearness to markets which absorb much of the alkalis and bleaching powder produced, e.g. the cotton industries of Lancashire.

Other centres of the heavy chemical industry are Newcastle, Fleetwood, London, Glasgow, Leeds.

2. *Coal Tar Chemicals.* The range of these products has already been described. Coal

of the industry depends essentially on vast supplies of cheap electricity, generated by water power. Among the many products the chief are calcium carbide, synthetic fertilizers and aluminium. Aluminium is produced from imported bauxite near Fort William in the west Highlands of Scotland, where a vast hydro-electric scheme supplies the necessary power. The Highlands, with their great water power

resources, offer great scope for further development in this direction, especially for the production of synthetic fertilizers from atmospheric nitrogen.

4. *Derived Chemical Products. Soap.* The requirements for this are supplies of animal or vegetable oils, together with alkali (caustic soda or potash) and plentiful water supply. Since most of the vegetable oils are imported, the manufacture of soap is carried on mainly near ports, situated in close proximity to chemical works producing the alkalis.

The chief centres are : Merseyside (Port Sunlight, Warrington), London, Hull, Glasgow, Bristol.

Glass. The manufacture of glass is essentially a chemical process. The raw materials are silica (in the form of sand, flint or quartz) and products of the heavy chemical industry (potash, soda, metallic oxides) and coal.

The chief centres are St. Helens, Birmingham, London, Droitwich and Sunderland.

Leather. For the manufacture of leather, supplies of chemicals (alum, chrome compounds, sodium hyposulphite), supplies of tanning materials (bark extracts of oak, hemlock ; quebracho extract) and supplies of soft water are needed in addition to supplies of hides and skins.

In the early days of the industry in Britain, the tanning industry arose in many places where local supplies of cattle hides and sheepskins were available and where supplies of oak bark and soft water were abundant, e.g. Leicester, Norwich, Northampton.

To-day most of the hides and skins are imported, so the industry is established at the great ports, especially in London (Bermondsey) and Manchester, in addition to the old established centres, such as Leicester, Norwich and Northampton.

Paper. Since the most bulky and extensively used material, pulp, has to be imported, the deciding factors in the localization of the industry are proximity to tidal water and to large consuming centres, in addition to water supplies.

The chief manufacturing centres are therefore : North Kent on the Thames Estuary (e.g. Gravesend), supplying London's demands, North Lancashire (using the port of Preston), Rutherglen (supplying Clydeside), and Edinburgh.

Paints and Varnishes. These products, so extensively used to preserve wood, and to prevent corrosion of metals, may be regarded as by-products of the chemical industry. Since many of the chemicals, and the resin and oils used in their preparation are imported, the industry is chiefly centred near the chemical works of the great ports, e.g. London, Tyneside.

Fine Chemicals and Drugs produced at Nottingham and London.

Pottery

The production of pottery, porcelain and earthenware, is concentrated chiefly on the North Staffordshire coalfield in the area known as the "Potteries". (Fig. 43.)

The requirements of the industry are : Supplies of clay for earthenware, kaolin for China, and flints for porcelain manufacture ; coal ; skilled labour and chemicals for glazing and colouring.

The industry began as a sideline to agriculture, when the small holders of the rather poor agricultural areas of North Staffs made earthenware from local clay, to augment their incomes. Thus there grew up a nucleus of

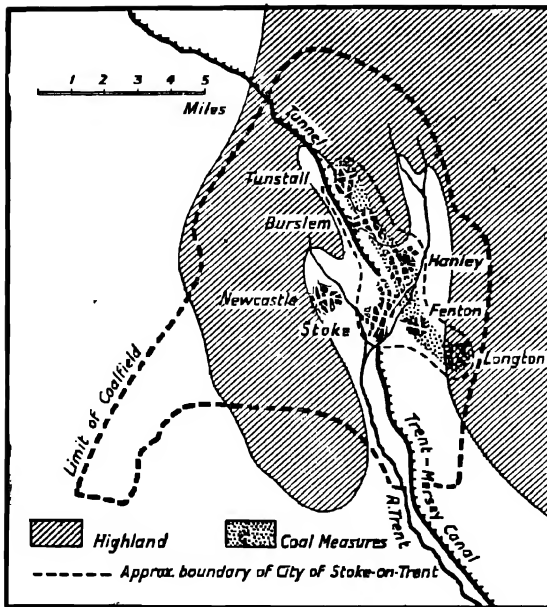


Fig. 43. The pottery towns of North Staffordshire.

skilled potters, amongst whom were the Wedgwood family, to whose skill and foresight the industry owes its later prosperity. The construction of the Trent-Mersey canal in 1770 was an important event in the history of the industry, as it allowed the cheap transport of kaolin from Cornwall and Devon, enabling the industry to develop and expand.

Stoke-on-Trent is the principal centre of the Potteries, while other centres of the industry in Britain

include such places as London, Derby, Worcester, Bristol and Barnstaple.

LESSON SIXTEEN

COMMUNICATIONS OF THE EMPIRE

Major Ocean Routes

THE chief Empire sea routes should be studied on Fig. 44 in conjunction with the following notes.

1. Liverpool to Montreal and Halifax. About 60 per cent of Canada's exports, including wheat, timber and animal products, come by this route to Great Britain and Western Europe. Halifax in Nova Scotia is an icefree port and handles much of the winter traffic.

2. Southampton and London via the Suez Canal to India, Colombo (Ceylon), thence (a) to Singapore, Hong Kong and the Far East, (b) to Australia and New Zealand.

A small section of shipping using the Suez Canal route serves East Africa.

The Suez Canal route is the most important Empire route as ships following it call at more ports and serve more people than any other route.

3. London to (a) Cape Town and (b) by the Cape to Australia and New Zealand. The Cape route to Australia is mainly used by cargo ships on account of the heavy cost of Suez tolls, but many of these ships return via Suez because of the high value of their cargoes.

4 Liverpool to ports in British West Africa, e.g. Freetown (Sierra Leone); Takoradi and Accra (Gold Coast), Lagos (Nigeria)

5 London to New Zealand and Australia via the Panama Canal. This route to New Zealand is shorter than by Suez and is therefore important for quick mail and passenger traffic. It has, however, the disadvantage of serving few ports en route and in consequence is little used for Empire cargo traffic.

6 Bristol to West Indies. The opening of the Panama route has put the West Indies on a great through ocean route but there is, in addition, a considerable volume of direct traffic between Great Britain and the West Indies, especially in fruit and sugar.

7 Vancouver to Australia and New Zealand. This route is mainly important as a section of the great Empire land-sea links i.e. Great Britain to Montreal—Montreal to Vancouver by Canadian Pacific Railway—Vancouver to Australia by sea.

Principal Air Routes

There are two major Empire air routes (a) London to Australia (b) London to South Africa.

The courses of these routes, which should be carefully studied on Fig. 45, have been determined partly by geographical and partly by political and commercial factors.

Geographically the routes are planned to avoid natural difficulties such as mountains, deserts, large stretches of ocean and forest, as their use commercially must depend on securing the maximum degree of safety. Notice on the map, as examples of this, how the Australian route by crossing to Baghdad avoids the Arabian Desert and thence follows the Persian Gulf to miss the mountains of Iran. Notice too how the route from Singapore to Darwin follows the line of the East Indian islands to avoid the long sea crossing and from here to Perth and Sydney the two branches skirt the Australian desert. The course of the Cape routes similarly avoids the great Sahara Desert and forests of the Congo which the more direct western route would cross.

Politically and commercially the routes are planned to serve the greatest number and most important centres of trade and population. As examples, notice the course of the Australian route from Karachi to Singapore by way of the Ganges Plain through Delhi, Allahabad, Calcutta and then to Rangoon and by the coast to Singapore. On the Cape route the course follows the Nile from Alexandria to Khartoum in the Anglo-Egyptian Sudan and so on through the British East African colonial areas to important centres in Rhodesia and the Union.

Trans-Continental Land Routes

Canada. There are two main continental railway systems in Canada—the Canadian Pacific and the Canadian National railways. The C.P.R. was originally built to link up the western, central and eastern provinces which were formed into the Dominion of Canada in 1867. These routes now carry some through traffic of mails, passengers and perishable goods, but in the main they provide (a) the network of communication for the more populous

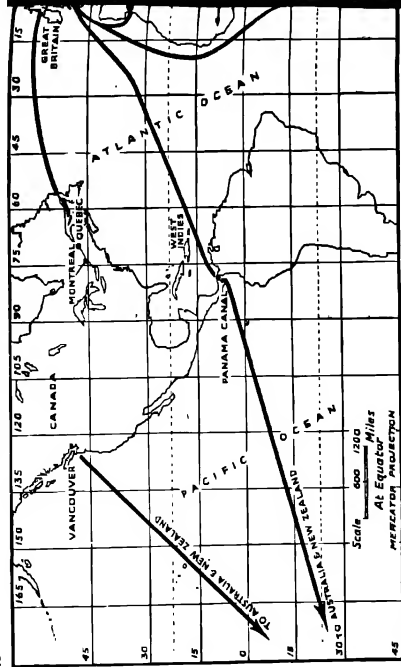


Fig. 44. The major ocean routes which link Great Britain with her Dominions

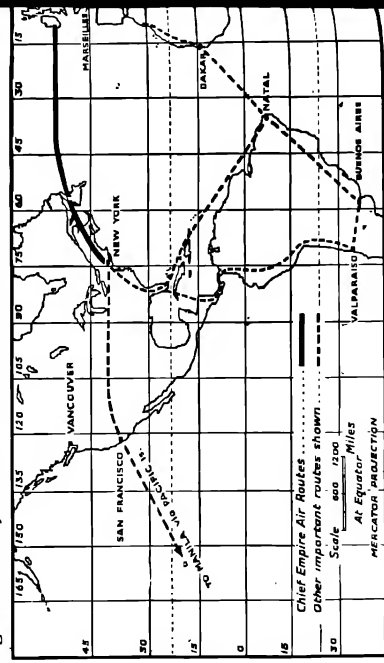
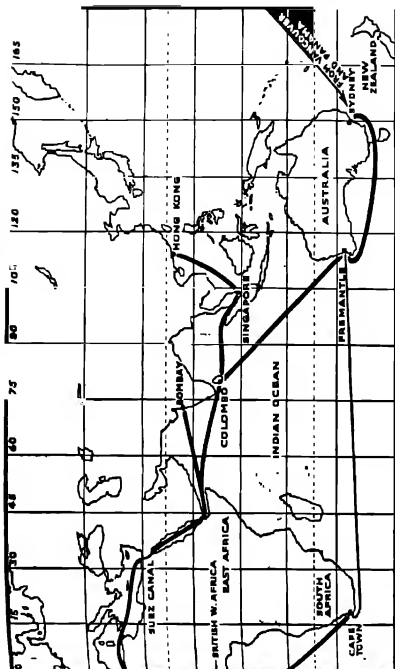
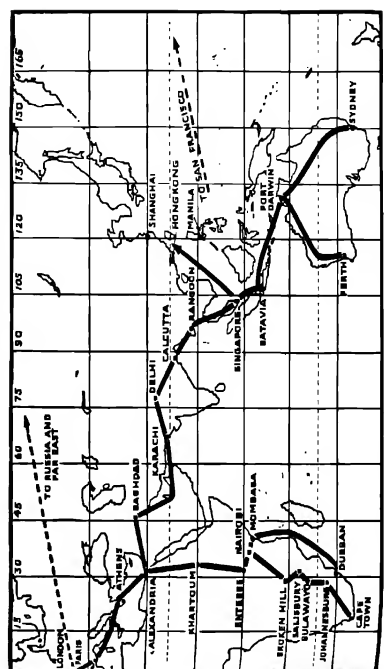


Fig. 45. The major air routes of the British Empire. Note how detours are made to avoid desert regions, long sea crossings and other natural difficulties.



and overseas possessions and constitute the "life lines" of the Empire.



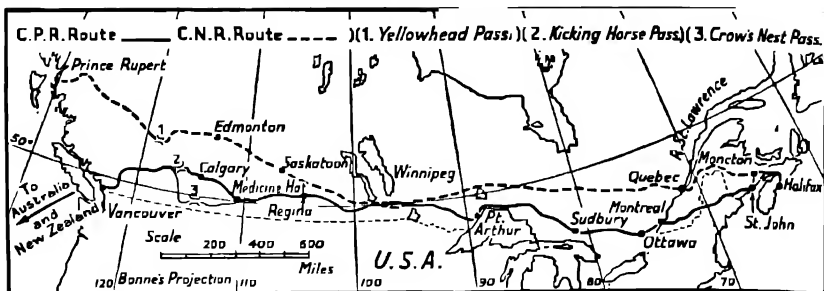


Fig. 46. The trans-continental routes of Canada, linking the Pacific and Atlantic. They form an important section of the Empire's land-sea routes.

eastern provinces, (b) transport means for the heavy commodities of the central provinces, e.g. wheat, to the nearest water transport either eastward to the Great Lakes and St. Lawrence or westward to the Pacific ports of Vancouver or Prince Rupert.

The C.P.R. joins Halifax (Nova Scotia) and St. John (New Brunswick) with Montreal on the St. Lawrence. From there it runs to Ottawa, the capital,

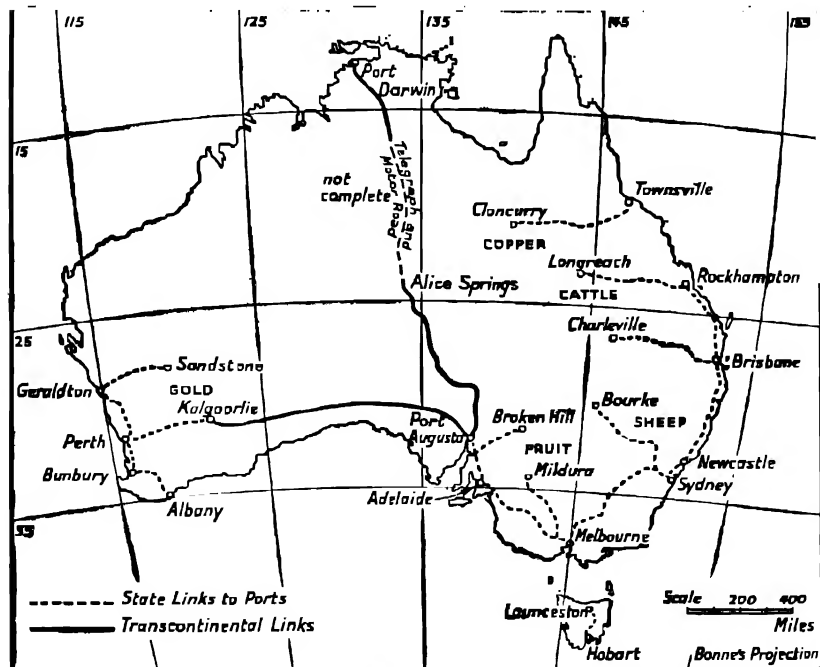


Fig. 47. The two trans-continental routes of the Commonwealth of Australia.

to Port Arthur on Lake Superior, to Winnipeg and so on through the provinces of Saskatchewan and Alberta via the Crow's Nest and Kicking Horse Passes to Vancouver in British Columbia.

The C.N.R. runs from Moncton (New Brunswick) to Quebec and on to Winnipeg. From here it runs north-west to Edmonton and via the Yellow-head Pass through the Rockies to Prince Rupert. (Fig. 46).

Australia. The main Australian railway systems converge on the major ports to provide outlets for the commodities of the producing areas and channels for the distribution of imports and were built by the separate states. With the union of the states into the Commonwealth of Australia, it became necessary for political reasons to link the isolated Western Australia with the rest of the Commonwealth. To do this the Australian Government built the trans-continental link from Port Augusta in South Australia to Kalgoorlie.

A similar link to reduce the isolation of the northern territories from the rest of the states is to run from Darwin in Northern Australia to Adelaide, part of which is still to be constructed. (Fig. 47.)

Both of these trans-continental lines are almost entirely used for fast mail and passenger traffic, as the vast stretches of unproductive land through which they both pass provide no commercial traffic en route, and all through goods traffic uses the cheaper alternative sea route.

EXERCISES FOR PRACTICE

These exercises are based on the information given in the lessons of this section.

1. What are the chief geographical factors affecting commerce? To what extent do relief and structure control human activity?
2. Write a geographical account of any three minerals of economic importance.
3. On an outline map of the world mark the chief areas where hydro-electric power is developed.
4. What are the chief economic products obtained from (a) equatorial forest lands; (b) tropical grasslands?
5. Describe the typical monsoon type of climate.
6. Describe and account for (a) the distribution of rainfall; (b) the distribution of crops in India.
7. Discuss the statement that the geography of China is the geography of three great river basins.
8. Describe the production of cotton and the manufacture of cotton in Japan or China or India.
9. Describe the characteristic features of the Mediterranean type of climate. How do these conditions affect the crops?
10. What do you understand by temperate grasslands? What features of climate and natural vegetation are common to these lands? Discuss their economic value at the present time.
11. Write a detailed geographical account, illustrated with sketch maps, of the fishing industry, the cotton industry or the woollen industry of the British Isles.
12. Describe the chief industries of the Central Valley of Scotland and illustrate by means of a sketch map.

SECTION VIII

IMPORTS AND EXPORTS

LESSON ONE

BRITAIN'S FOREIGN TRADE

DURING the latter half of the eighteenth century, when the vast upheaval began which was to transform Britain from being a predominantly agricultural country into the "workshop of the world", her foreign trade was still of small dimensions, and consisted largely of traffic in luxuries. Communications were poor, shipping was scanty, and wars interfered with the commerce of nations.

The total tonnage of shipping entering British ports at this time has been estimated at not more than two to three million tons per year. Foreign markets lacked banking facilities and reliable importers, and most of the financing had to be done from this side. Such trade as existed carried considerable risks, and "merchant adventurers" doing business on their own account, were still prominent in the export business. Some trade was done by companies incorporated by Royal Charter, e.g. the East India Company, which for a long time had a virtual monopoly of trade with the East. Importing merchants received goods on consignment, i.e. they acted as agents for foreign owners, advancing money before the goods were actually sold. The country pursued a protectionist policy and practically all goods arriving here were subject to duty, with the customary accompaniment of smuggling.

The nineteenth century saw a great increase in foreign trade. The change over from a protectionist policy to one of free trade coincided with a rapid increase in population, improved communications, and the opening up of vast territories overseas. British shipping played its part in this expansion, her share of the world's tonnage reaching a maximum of seventy-five per cent in 1895. The construction of railways, first in Europe, then in the United States, India, Canada and South America, helped in the finding of new markets. Another factor of great benefit to Britain was the Suez Canal, which had been opened in 1869. The construction of deep sea cables caused the world to shrink to a single market.

During this period Britain entered on her modern phase as a country exporting manufactures and importing food and raw materials. Towards the latter end of this century two loaves out of every three consumed in Britain were imported.

The long start which she gained in industrialization enabled Britain to supply capital and capital goods for the development of backward territories. Trade was often triangular or multilateral, e.g. capital borrowed by Russia in London for the construction of a railway might be spent partly on obtaining the rolling stock in Germany, the latter country completing the triangle by purchasing other manufactured goods from Britain.

It was in this period, too, that the great central markets of London came

into prominence—the Baltic for timber and ships, Smithfield for meat, and Billingsgate for fish. There was less "adventuring" in foreign trade, and more manufacturing to order. Merchants tended to be eliminated by the larger and more specialized manufacturers, who found it possible to deal direct with their foreign customers. Markets such as the Liverpool Cotton Market took on a more highly organized character, and dealings in futures (see Lesson Eight) were instituted.

The twentieth century saw Britain exposed to increasingly keen competition from the younger industrial nations: this competition was felt at home and also in the overseas markets where she had formerly held a monopoly. In spite of this, 1907 was a peak year for the export of both goods and capital. Cotton textiles and iron and steel, two of the basic industries, were being challenged; the first by India and Japan, the second by Germany and the U.S.A. The irony of the situation was that Britain, by her exports of machinery, had made this competition possible. There was indeed a relative slackening of efficiency in the 1900's and a worsening of the terms of trade, i.e. Britain was compelled to offer a rather better bit of steel-work or a few more yards of unbleached cotton for each quarter of wheat or load of timber.

The extent of Britain's foreign trade may be gathered from the fact that prior to the first World War from one-quarter to one-third of her total production was sent overseas. A remarkable feature is that her trade with foreign countries grew more rapidly than her trade with Empire countries. She benefited enormously from the wide sources of supply of her foodstuffs; thus she was enabled to enjoy stable and low prices for these commodities. New imports—rubber and petroleum—were coming into use, likewise new exports, such as motor-cars.

The twentieth century saw the growth of organizations for regulating international trade. Producers in various countries arranged to share patents, to sell at fixed prices, and to share the world markets in which they sold their products.

In the 1930's, foreign trade suffered a great shrinkage. Intense nationalism and the desire for self-sufficiency universally developed. Britain forsook her policy of Free Trade and became once again a protectionist country. Countries which had been neutral during the first War, or had been engaged to only a slight extent, had gone ahead with their manufactures and had gained a firm footing in markets where Britain had formerly held a predominant position. Britain suffered indirectly as well as directly from these happenings; her shipping and financial services were adversely affected. Her total overseas trade—imports and exports—in 1929 was roughly £2,050 millions; in 1933 it had fallen to £1,100 millions, and by 1938 it had increased only to £1,450 millions.

The second World War resulted in vast changes in the amount and character of Britain's foreign trade. Imports retained in this country rose from £858,000,000 in 1938 to £1,865,000,000 in 1943; this latter figure includes lease-lend and mutual-aid imports. The chief cause of the rise is to be found in the enormous importation of munitions, this outweighing the fall in the importation of food, raw materials and finished goods. It must be borne in mind, too, that prices of imported goods nearly doubled in this

period. The exigencies of war also caused a change in the sources of supply. Imports from British countries fell from 40 per cent in 1938 to 30 per cent in 1943; those from the U.S.A. rose from 13 per cent to 59 per cent; while imports from other countries fell from 47 per cent to 11 per cent.

During this period exports (excluding munitions) fell in value from £457,000,000 to £228,000,000. Here again, prices increased almost twofold. Of course, the preoccupation of home manufacturers with production for war purposes was the chief cause of the fall in exports.

SELF-TESTING QUESTIONS AND EXERCISES

1. What were the chief characteristics of British foreign trade during the nineteenth century?
2. How do you account for the shrinkage of Britain's foreign trade between the two World Wars?

The answers to the questions are on page 481.

LESSON TWO

PRINCIPLES OF INTERNATIONAL TRADE

Advantages of Foreign Trade

1. Instead of having to supply all the needs of its population from its own resources, each country is able to specialize in the production of those commodities for which it is best fitted by reason of its natural gifts and the aptitude of its people.

2. A young, undeveloped country may obtain the tools and machines which it needs in order to make the best of its raw materials; conversely, an older, more industrialized country may find a market for its products.

3. The standard of life in each country is raised by this mutual exchange of products. It is true that after the first World War, certain countries, e.g. Germany, tried to make themselves as economically self-sufficient as possible. This tendency was termed "autarchic," and the resultant economic condition "autarchy." The danger of this procedure is now, however, increasingly recognized.

4. Britain, with her small densely populated area, benefits considerably from foreign trade. She is a highly industrialized country, depending on foreign countries for supplies of foodstuffs and raw materials.

5. On the other hand, as Britain has such a dense population accustomed to a high standard of living, she is a good market for the countries which produce raw material and food,

6. Britain's foreign trade leads indirectly to the employment of large numbers of people in occupations of a subsidiary character. Her shipping, though not to-day forming so large a proportion of the world's tonnage as formerly, still carries large quantities of goods to all parts of the globe. Much of the world's insurance is done through London companies, and financial services are provided by her banks.

7. Occupying as she does a position midway between the Old World and the New, Britain is the recognized centre for entrepôt or transshipment trade.

Cargoes are brought to London from other countries, and are rearranged and redistributed to the Continent.

Balance of Trade

The trade of a country with other nations is, of course, a two-way traffic. On the one hand there are the goods which the country sends abroad—its exports—while on the other hand the country will receive goods from abroad—its imports. The expression "balance of trade" refers to the excess of imports over exports, or vice versa. International dealing in commodities is termed "visible" trade, in the sense that it consists of trade in tangible goods whose extent can be accurately computed.

Broadly speaking, it is true that the goods which a country sends out are exchanged for those that come in, but you must not imagine that in any particular year the goods sent out will equal those which come in, either in quantity or value, for the following reasons :

1. There is a slight difference in the basis of valuation of imports and exports, the former being valued as they arrive at the port of destination, with transport charges added, whereas exports are valued as they stand at the port of dispatch.
2. When a country is in process of development, and raw materials or machines or both are needed to assist in that development, it is only natural to expect that it will have an excess of imports.
3. When a country is mature, and its industries are in full working order, the volume of exports will probably increase relatively to the volume of imports.
4. At a still further stage, when the country has invested considerable sums abroad by reason of its export surpluses, it may once again have an excess of imports, due to the fact that the countries to which it has lent capital are paying the interest thereon by sending goods. When this stage has been reached, the country is said to be a creditor country, as distinct from its position in (2), when it is termed a debtor country.
5. The economic relationships of one country with the rest of the world do not consist only in the exchange of goods ; services are also exchanged. Thus a country may pay for goods received by providing shipping and other services. This is more fully dealt with in the following paragraphs.

Balance of Indebtedness

Services performed by one country for the rest of the world are referred to as invisible trade. Britain provides considerably more such services than she receives from other countries, and by this means is enabled to pay for a large proportion of imported goods. When the visible and invisible trade are both taken into consideration, we speak of the resultant difference as the balance of indebtedness.

The principal items comprising invisible trade are as follows :

1. *Shipping services.* British ships are employed not merely in carrying British cargoes, but the cargoes of other countries as well ; and for this service Britain has to be paid in the same way as if she had exported goods.
2. *Financial services.* These are rendered by merchant bankers or accepting houses in London, and may take the form of accepting or discounting bills

of exchange, or the flotation of foreign loans. Insurance companies with their headquarters in London transact business for foreign firms.

3. *Income from investments.* Prior to the second World War, Britain was a creditor country, having lent large sums of money for overseas development, and receiving annually some £250,000,000 in interest on foreign investments. During the War, however, overseas assets amounting to £1,065,000,000 belonging to British nationals were sold, and Britain incurred liabilities abroad amounting to £2,300,000,000.

4. *Tourist income.* When foreigners visit this country, they arrange for money of their own country to be exchanged for pounds through British banks. When they draw on these "credits" they are providing income for someone in this country in exchange for services provided.

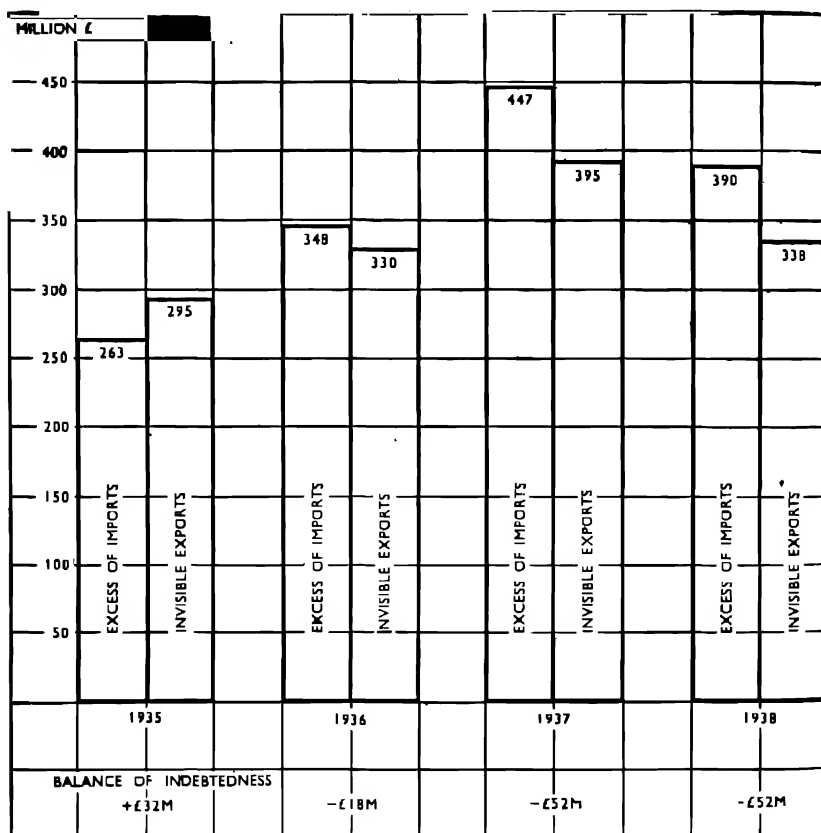


Fig. 1. Statistical diagram showing the extent to which Britain's excess of imports over exports (i.e. her balance of trade) in the years 1935-38 was offset by her invisible exports, resulting in the balance of indebtedness shown at the foot.

Fig. 1 shows the experience of Great Britain in 1935-38 as far as the balance of trade and the balance of indebtedness are concerned.

The item "excess of imports" shows the result of the visible trade as far as Britain is concerned, and is the balance of trade.

When the balance of indebtedness is plus, this means that Britain has so much money available for lending abroad; conversely, when the balance is minus, it means that she has to live on her capital to that extent; in other words, approximately so much money in the shape of capital investments abroad is brought home during that year.

It should be emphasized that the balance of indebtedness is an estimated figure, since the only item which can be given with any degree of exactitude in the above table is the excess of imports, or the figure representing the balance of trade.

SELF-TESTING QUESTIONS AND EXERCISES

1. Distinguish between visible and invisible trade.
2. Briefly define: Balance of trade; balance of indebtedness; entrepôt trade; autarchy.
3. How far is it true that imports pay for exports?

The answers to the questions are on page 482.

LESSON THREE

STATISTICS OF FOREIGN TRADE

Collection of Statistics

INFORMATION relating to the quantity and value of Britain's foreign trade is collected by a government department, the Board of Trade; this department also controls patents, weights and measures, and administers the law relating to wrecks, copyrights, companies, bankruptcy, gas undertakings and merchant shipping.

The collection of statistics of imports and exports is performed for the Board of Trade by the officers of His Majesty's Customs. All goods entering or leaving the country are classified in the Official Import and Export List; each item is officially described, and the list shows in addition the import duty on each class of goods, together with the unit of quantity for the purposes of declaration.

No cargo arriving in this country from abroad may be landed without the permission of a Customs officer, who compares the captain's list of the ship's cargo with the details on the Customs forms filled in by the importer. If everything is correct, the Customs officer will authorize the removal of the goods. Any duty on imported goods must be paid, if the goods are to be removed immediately, or the goods may be deposited in a bonded warehouse, jointly controlled by the owners and the Customs.

When goods are exported, the owner must make a formal declaration of all details of a consignment; this is known as a Customs Specification. This specification must include marks and numbers of the packages, description of the goods, net weight or quantity, f.o.b. (free on board) value, and

destination of the goods. A standard form of Export Specification (No. 29 Sale) is provided. The details on this form are compared with those on the ship's manifest, obtained from the shipowners, and the Customs officers may also claim the production of the invoices relating to the goods.

From the information gained in this way by the Customs officials, the Board of Trade Returns are compiled. These comprise :

1. An annual statement of the trade of the United Kingdom with foreign countries and British possessions.
2. A monthly statement, giving particulars of foreign trade during the preceding month.

Annual Statement

This is published in four volumes, at considerable intervals after the close of the year to which it refers. Imports are valued on a c.i.f. basis, that is, the values include freight and insurance as well as the actual cost of the goods. Exports are valued on a f.o.b. basis, which means that the values taken are those at the port of shipment, not taking into account the charges mentioned.

A distinction is made between the imported goods subject to duty and those not so subject. Articles imported which are not intended to remain in this country are listed separately. Both imports and exports are given alphabetically, and units of quantity are tabulated. Details are given of the trade between the United Kingdom and all other countries, these again being arranged alphabetically. Finally, there is an analysis of the trade of each Customs port in Britain, with the chief goods imported or exported, and details of quantities and values.

Monthly Statement

This is issued on the twelfth working day of the month following that to which it refers. Quarterly summaries also appear in the Board of Trade Journal, published weekly by the Board of Trade.

The monthly statement shows quantities and values of the principal articles imported and exported for the current month, the expired portion of the current year, and the corresponding periods of the previous year. Particulars are given for every item specified in the Official Import and Export List.

The tables are arranged in three sets, showing :

- (a) Total imports.
- (b) Exports of produce and manufactures of the United Kingdom.
- (c) Exports of imported merchandise.

Subtracting (c) from (a) gives the figures of net imports (imports retained in the United Kingdom). Allowing for changes in stocks held in the country, statistics of net imports give a measure of home consumption of the articles in question.

Imports are classified as received from the place or country of consignment. This is not necessarily the place or country of shipment, origin or manufacture. Exports are classified as dispatched to the country for which they are finally destined. Again, this is not necessarily the place or country where the consignment of goods is disembarked.

The results of adding up the 12 monthly figures usually differ somewhat from the annual figures published. This is because the final figures include a number of corrections which are not carried back into the monthly figures.

Here is a summary of the foreign trade of Britain for four different years, arranged in groups as in the official list :

(FIGURES IN MILLIONS OF POUNDS)

	<i>Food, drink and tobacco</i>	<i>Raw materials and articles mainly unmanufactured</i>	<i>Articles wholly or mainly manufactured</i>
1929 :			
Retained imports .	509.5	285.3	305.5
British exports .	55.7	78.9	573.8
1932 :			
Retained imports .	357.7	141.0	146.0
British exports .	31.5	43.6	276.4
1937 :			
Retained imports .	417.8	278.4	250.5
British exports .	38.8	64.6	404.7
1938 :			
Retained imports .	419.1	217.3	215.5
British exports .	35.9	56.9	365.4

Just a word of warning. When comparing the foreign trade of a country over a period of years at least two things should be kept in mind : The value of money does not remain stable ; allowance must be made for changes in its purchasing power. The composition of the foreign trade itself varies—new trades arise and old ones disappear. The relative importance of the different items varies.

SELF-TESTING QUESTIONS AND EXERCISES

1. Define : Manifest ; import and export list ; c.i.f. ; net imports.
2. Give an account of the sources from which British trade statistics are compiled, and the manner in which the information thus compiled is made available to the public.

The answers to the questions are on pages 482 and 483.

HOW BRITAIN PROMOTES FOREIGN TRADE

Department of Overseas Trade

UNTIL the end of the nineteenth century, government assistance in promoting foreign trade was neither needed nor desired. The long start which Britain had obtained in large-scale manufacture was sufficient to enable her products to be easily sold all over the world. The dislocation caused by the first World War, however, led to the realization that special efforts would have to be made to restore British exports to their pre-war volume. Accordingly, the Commercial Intelligence Branch of the Board of Trade, originally formed in 1900, was reorganized and expanded, and reappeared in 1918 as the Department of Overseas Trade. This Department is really jointly controlled by the Board of Trade and the Foreign Office (F g 2.)

Generally speaking, the Department of Overseas Trade tries to help British exporters by collecting and distributing commercial information. It gives advice to British manufacturers wishing to make contact with overseas markets. This advice includes information on the standing of foreign firms,

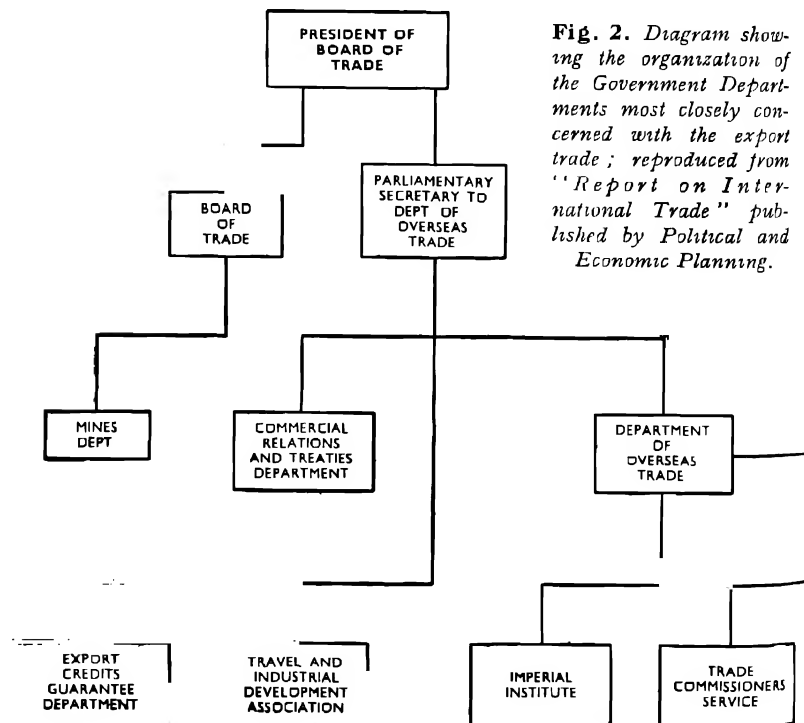
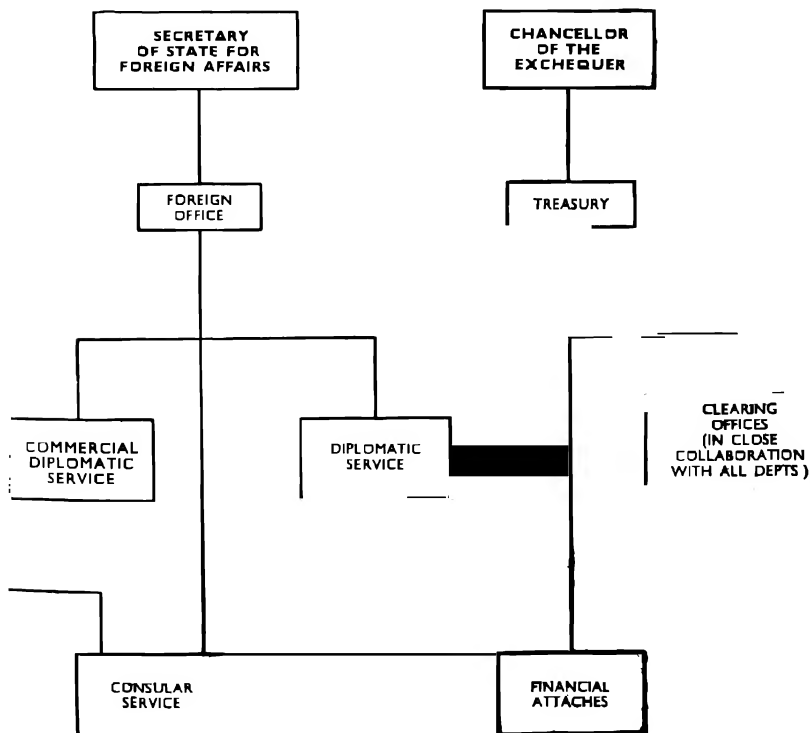


Fig. 2. Diagram showing the organization of the Government Department most closely concerned with the export trade; reproduced from "Report on International Trade" published by Political and Economic Planning.

on trade and other statistics, trade legislation, trade marks, transport services, quotas and import licences, credit conditions and market conditions. From time to time the principal commercial diplomatic officer or trade commissioner of the Department of Overseas Trade service makes a general report on conditions as a whole in a particular country

British Industries Fair

Started in 1915 by the Department of Overseas Trade (then the Commercial Intelligence Branch of the Board of Trade), the British Industries Fair became the largest national trade fair in the world. For some years it has been held each February in two sections—the lighter industries in London, and the Engineering and Hardware industries at Castle Bromwich, Birmingham. The London section is organized by the Department of Overseas Trade, and the Birmingham section by the Birmingham Chamber of Commerce in collaboration with the Department of Overseas Trade. The latter is also responsible for issuing catalogues to overseas buyers before the Fair begins. The goods shown are, of course, exclusively of British manufacture. In 1938 roughly 2,600 exhibitors, representing seventy-five different trades, took part, and the Fair was visited by 375,000 people, including buyers from seventy-three different countries.



Trade Commissioners

These represent the Department of Overseas Trade in Empire countries ; at less important posts their places are taken by imperial trade correspondents. Trade commissioners have the job of reporting on economic conditions generally, on foreign competition, and on all matters affecting British exporters. They answer inquiries sent to them either by the Department of Overseas Trade or by private firms, and assist any representatives who may be travelling in their territory. Periodically they come back home and may be consulted by firms.

Consular and Commercial Diplomatic Services

In foreign countries the Department of Overseas Trade functions chiefly through commercial diplomats (counsellors in the highest rank and secretaries in the lower ranks) who are attached to the embassies and legations. Their duties are similar to those of the trade commissioners already mentioned. All these officers are expected to maintain the fullest possible contact with everybody who counts in the trading, official and political spheres of the countries to which they are accredited.

While the commercial diplomatic officers and the trade commissioners perform duties which are entirely economic, the work of consuls is more varied. They further British commercial interests as much as possible, and any British subject in difficulty abroad may apply to a consul for help. Examples of their detailed duties are :

1. To discharge and repatriate British seamen who finish their voyages in foreign ports.
2. To settle disputes between masters and seamen in foreign ports. On one occasion a British consul abroad had to decide, on the application of a body of seamen, whether their captain was justified in giving them jam instead of butter !
3. To deal with the documents necessary when British ships are visiting foreign ports, and when foreign ships are leaving ports abroad for journeys to British ports.

Export Credits Guarantee Department

The intensity of competition in foreign trade led to the creation of this department in July, 1926. Its particular function is to assist British exporters in granting credit to their customers abroad. The scope of the Department's activities has been extended from time to time, and it operates at present under powers contained in the Export Guarantees Act, 1945. Guarantees in connexion with the export of home produced goods are given after consultation with a representative advisory committee, and the actual management of the Department is conducted by an executive committee of prominent business men.

The Act of 1945 raised the limit upon the commitments of the Export Credit Guarantees Department from £75,000,000 to £200,000,000, and provided for the introduction of a new and improved guarantee policy. This policy, known as the E.C.G.D. (Contracts) Policy, covers exports on short credit of consumer goods and straightforward sales of capital goods. Exporters are guaranteed against loss due to the buyer's insolvency up to

85 per cent, and against transfer risks up to 90 per cent. Transfer risks cover cases where an exporter is unable to bring his money home because of government restrictions over which neither the exporter nor his customer has any control. The guarantee operates from the date of the placing of the contract, but does not cover any losses within the buyer's or the exporter's own control, or arising in the United Kingdom. A comprehensive premium is charged; an exporter, however, may insure against insolvency without covering transfer risks, but not vice versa.

A new provision in the Act of 1945 covers the exporter, not only where the insolvency of the buyer is established to the satisfaction of the Department, but also in all cases where the buyer, whether insolvent or not, has not paid the contract price within 12 months of the stipulated date, provided in this case that the goods have been delivered and accepted.

Prior to the passing of the 1945 Act, the Department interpreted the 85 per cent cover against insolvency as meaning that the Department met losses only in excess of the first 15 per cent, and that any subsequent receipts from the foreign debtor must be applied first in meeting the Department's claims, any surplus going to the exporter. This principle is now abandoned, and the Department and the exporter share proportionately in all losses and receipts.

In theory, an exporter, if he deals with the Department at all, must do so for the whole of his export sales. In practice, however, so long as an exporter gives the Department a reasonable "spread" of risks, he is not bound to insure his whole foreign turnover.

Chambers of Commerce

These are bodies independent of the Government, rendering valuable service in the promotion of foreign trade.

A chamber of commerce such as that in London provides statistical information relating to overseas markets and buyers, gives advice on customs matters, and issues certificates of origin required for goods exported to certain countries. It makes its views known to the Government on proposed trade legislation in Britain, and makes representations to the British Government concerning laws passed abroad which affect the commercial interests of its members.

The Association of British Chambers of Commerce, dating from 1860, is an affiliation of over one hundred chambers of commerce in this country, together with about twenty-five British chambers of commerce formed in foreign countries. The association exists to discuss questions concerning trade, commerce, manufactures and shipping; to collect and disseminate commercial information; to place the views of the associated chambers before the Government; and to prepare and promote in Parliament bills in the interests of trade, and to oppose such measures as might injure those interests.

Federation of British Industries

Nearly thirty years old, the Federation of British Industries is the mouth-piece of manufacturers in this country. It maintains an expert research staff, together with representatives in home and overseas centres. Problems of foreign trade are dealt with either by an overseas committee, a tariffs and

commercial treaties committee, or an empire committee. The main function of the Federation of British Industries is to maintain and increase, where possible, the existing markets for British goods overseas.

SELF-TESTING QUESTIONS AND EXERCISES

1. What do you consider should be the attitude of a government in regard to foreign trade?
2. Give an account of the activities of one of the larger British chambers of commerce.
3. In what ways may British manufacturers help to extend foreign trade?

The answers to the questions are on page 483.

LESSON FIVE

EXPORT TRADE

The Merchant Shipper

At one time all export trade was carried on by the merchant shipper, who was the link between the manufacturer and the consumer. He took the risks of opening up foreign markets, financed the trade and often owned his ships; frequently he became interested in the import trade as well as in export, and a valuable two-way traffic was built up. British manufacturers were enabled to devote themselves to manufacturing; the merchant shipper saw to the problems of exporting. More recently, however, the changing nature of foreign trade, increasing competition from foreign firms, and the increase of government restrictions, have combined to cause the decline of merchant business.

Export Commission House

While the merchant shipper buys and ships goods on his own account, the Export Commission House receives instructions from foreign firms regarding the purchase of goods, obtains quotations from different manufacturers, buys the goods and forwards them and settles the account. Remuneration is by commission, which varies with the products dealt in and the service rendered. Here again, the expert knowledge of the intermediaries is useful alike to the foreign buyer and the British manufacturer.

Export Agent

This type of middleman may have his headquarters at a British port, and a selling organization overseas, or he may be entirely situated in a foreign country. The method is adopted where home manufacturers do not wish to bear the burden of developing a foreign market themselves, or in the case of products whose sale is too specialized or intermittent to be satisfactorily undertaken by merchants, or again by manufacturing firms which are too small to warrant their setting up a foreign sales organization of their own. For the method to be successful, it is necessary that the foreign market should be carefully studied, or that the manufacturer should receive reliable advice as to the choice of agent. When a good agent has been secured, the

manufacturer should keep in constant touch with him, and should require periodical reports regarding sales progress, competition, general trade statistics and market information. The agent operates on commission, and his contract is generally firm for such a period as will enable him to develop the connexion satisfactorily; there is usually a clause enabling the manufacturer to determine the agency if the turnover does not reach a satisfactory figure, and another clause entitling either party to terminate the agency after given notice. The best results are likely to be achieved where the agent is granted sole selling rights over a certain territory.

Difficulties may arise where the agent takes up agencies on behalf of several manufacturers, especially where their products are competitive.

Direct Selling to Overseas Markets

A manufacturer with sufficient capital may set up his own sales organization to sell his goods overseas or he may establish an independent selling organization abroad. This latter procedure is sometimes adopted in order to secure the advantages of preferential tariffs in the country where the branch is opened; e.g. American businesses have started branches in Canada to get the benefit of British preferential tariffs. Another reason is found in the difficulty of operating in a foreign country owing to the difference in laws; in this case a separate subsidiary business may be set up. This business will be registered according to the law of the foreign country, while the whole or the majority of the capital is found by the exporting manufacturer in his own country.

Direct selling to overseas markets by manufacturers has been criticized on the ground that it is a one-way traffic; it does nothing to assist foreign producers to sell their products and so increase their purchasing power, as the old merchanting system did.

Group Selling

This is an alternative method to direct selling by individual manufacturers. It may take the form of a group of manufacturers sharing the cost of maintaining an exclusive resident agent in an overseas market. Or a marketing company may be formed by a group of manufacturers, the expense being shared by the members in agreed proportions; yet another device is the formation of a central sales organization by firms in a particular industry. This organization works overseas markets, orders being divided amongst the associated firms in agreed proportions.

The method has the best chance of success where the products of the manufacturers concerned are complementary and not competitive. It is intended that such schemes should be worked in close co-operation with merchants. Although not much developed in Great Britain so far, it is probable that more may be heard of this method in the future.

SELF-TESTING QUESTIONS AND EXERCISES

1. Account for the decline of the merchant shipper during the present century.
2. What advantages does group selling offer to British exporters?

The answers to the questions are on pages 483 and 484.

EXPORTING GOODS

Open and Closed Indents

An indent is a foreign order, usually given in considerable detail ; the term is used particularly in a case where a foreign buyer orders goods through an agent in this country. An open indent gives details of the goods required, but leaves to the agent the task of getting the quotations and ordering to the best interests of the foreign customer. A closed indent instructs the agent as to the exact price to be paid and the particular manufacturer from whom the goods are to be obtained.

Packing and Shipment of Goods

The work of packing may be done by the manufacturer himself, by the merchant shipper or agent, or by a firm which specializes in this operation. In any case, the instructions of the customer must be carefully followed, and among the considerations to be borne in mind are the following :

- (a) Climatic conditions in the foreign country. (b) Ease of handling.
- (c) Marine insurance, e.g. zinc-lined cases usually mean lower rates. (d) Reduction of volume in order to save freight when this is reckoned by measurement ton, i.e. forty cubic feet. (e) Customs regulations in the foreign country. (f) Inland transport in the country of destination.
- (g) Making-up of the goods according to trade custom.

Each package must be marked and numbered ; the marks generally consist of a diamond-shaped figure containing the initials of the foreign importing firm.

When the goods have been packed, the exporter or his agent must ascertain from what port and by what vessel they are to be forwarded. This decision being made, the goods are removed to the docks, the actual methods depending on whether or not they come from an inland town. The shipping company, on being notified that the goods have arrived, arranges for them to be loaded on board the vessel. Dock dues must be paid, and the shipper must fill in the Customs Specification, giving full details of the goods in accordance with the official Import and Export List.

The shipping note or the mate's receipt, given to the exporter or his agent when the goods are put on board, forms the basis of the freight note, which is an account for the freight charges. These are calculated on the basis of weight in the case of heavy goods, and on the basis of measurement in the case of light, bulky goods.

Bill of Lading

Certain documents in connexion with foreign trade are known as shipping documents, and the Bill of Lading is one of the most important of these. It serves several distinct purposes : (a) it is a certificate of ownership of the goods ; (b) it contains the terms of the contract between the exporter and the shipowners ; (c) it is a receipt for the goods and an acknowledgment that they have been placed on board the vessel named therein ; (d) it is the principal document for obtaining advances from banks in connexion with

a shipment, and in securing payment from the consignees, i.e. the firm to which the goods are dispatched.

A bill of lading (B/L) is usually made out in a set of a stated number of copies, usually three, of which one or more are stamped. The copies are prepared by the exporter or his agent, on printed forms, and are then handed to the shipping company to be checked; if correct, they are signed and returned to the exporter in exchange for the mate's receipt. The exporter sends one stamped copy to the importer by air mail or by the vessel carrying the goods; a second copy is sent by the next mail, in case the first miscarries, while the third, which is generally unstamped, is retained.

A bill of lading which states that the goods have been shipped "in apparent good order and condition" is said to be a "clean" bill. If the goods are not so shipped, the B/L gives details of the state of the goods, e.g. package broken. The B/L is then said to be "claused" or "foul."

Insurance

Since the bill of lading, in its capacity of contract of affreightment, relieves the shipowner of liability for loss or damage in certain eventualities, it becomes necessary for the exporter to insure the goods; the insurance policy is another of the shipping documents sent to the importer; he needs it so that he may claim in the case of loss or damage. The insurance may be effected either with an underwriter at Lloyd's, or through an insurance company specializing in this form of risk. Exporters shipping regularly to overseas markets may take out an open or floating policy covering all their shipments up to a certain sum, instead of taking out a policy for each consignment. Notice has to be given by the shipper to the broker or underwriter whenever goods are shipped and the value of the shipment is deducted from the total sum insured.

Export Invoice

This is made out on the same lines as an invoice in the home trade; there are, however, additional details relating to the vessel by which the goods are shipped, the marks on the cases (for identification purposes), and any charges incurred by the exporter over and above the selling price of the goods.

When an exporter is asked to quote a price, he may give one which represents the cost of the goods as they stand in his warehouse or factory; this is called a loco. price. Or he may be requested to quote a free on board price (f.o.b.); such a price will include, in addition to the actual cost of the goods, the road and rail carriage to the docks, lighterage, dock charges, and loading. If the foreign buyer wishes to throw the risk of changes in freight and insurance rates on the British exporter, he will ask the latter to quote a cost, insurance and freight price (c.i.f.); this will include in the price per unit, in addition to charges mentioned above, harbour dues, bills of lading, freight, Customs formalities, consular invoices or certificates of origin, landing charges at the port to which the shipment is consigned, and marine insurance.

The most comprehensive price of all from the foreign buyer's point of view is the franco or franco domicile price, which includes in the price per unit all charges incurred up to delivery to the buyer's warehouse.

N^o 15998

CERTIFICATE OF ORIGIN.

THE undersigned, duly authorized by The **Chamber of Commerce** (Incorporated),
herby verifies the declaration made below by _____
of _____ *in respect of the undermentioned goods*
consigned to _____ *at* _____
(via _____ *).*

Number of Packages	Marks and Numbers	Gross Weight Kilos.	Net Weight Kilos.	Description of the Goods
				<div style="text-align: right;">Value _____</div>

That the goods specified in the Schedule above are of _____ *origin, production*
or manufacture.

Signature of Declarer _____



Secretary-adjoint _____

Number of Certificates _____

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Fig. 3. *A specimen certificate of origin. This form is used when an exporter is sending goods to a country where British manufactures receive preferential treatment. It is a guarantee that the goods mentioned in it are of British origin*

Consular Invoice

Most foreign countries require consular invoices for the purpose of assessing import duties when the goods arrive. It may be necessary to prepare them in the language of the foreign country. Full details of the goods must be declared under the prescribed headings of the foreign Customs tariff, the accuracy of the statements must be vouched for, and the consular fee paid.

Certificate of Origin

This document is required when goods are being shipped to a country giving preferential treatment in the matter of customs duties to Britain; this is particularly the case with British Dominions. The certificate of origin guarantees that the goods mentioned therein are of British manufacture; it is signed either by a consular representative or by the secretary of a chamber of commerce. (Fig. 3.)

Methods of Payment

1. *Open Accounts.* Where a British exporter is fully satisfied as to the financial standing of his foreign customer he may consent to run an account with him in the same way as he would do with a trader at home. In such circumstances the balance due is remitted to Britain at stated intervals in a manner agreed upon, e.g. by telegraphic transfer (T/T), by means of which a bank in one country will cable instructions to its agent in another country to pay a sum of money to the person named in the transfer, or by banker's draft, which is a cheque drawn by one bank upon another. This method of financing foreign transactions is used particularly in trade with South America and with the United States.

2. *Cash Terms.* The foreign importer is here required to send the money before he obtains the goods. The method is obviously very convenient to the exporter, but it is unlikely to be useful as a means of developing export trade, as most foreign buyers will be reluctant to pay for the goods until they can lay their hands on them; then again, they may require that credit shall be granted in order that they can dispose of the goods before payment is to be made.

3. *Cash against Documents.* Where a foreign buyer is reluctant to pay for the goods until he knows that they have arrived in his own country, the exporter may arrange to draw a bill of exchange (Fig. 4) for the amount due. This document may be payable on demand or at some time in the future, according to the length of credit agreed upon. The British exporter will hand this bill of exchange, together with the shipping documents, i.e. the bill of lading, marine insurance policy, commercial invoice, and the consular invoice and certificate of origin if either or both are necessary for the particular market, to his bank, who will then forward them to their agent abroad; the agent, also a bank, will hand the shipping documents to the importer on his paying the amount of the bill of exchange. In this case the British bank is said to be collecting the amount of the bill of exchange. Where the home manufacturer knows his foreign customer well, he may allow the shipping documents to be surrendered on the customer's accepting the bill of exchange. This means that the customer writes his name across the face of the document, and by this method makes himself liable for payment at the time stipulated.



No. [redacted] Exchange [redacted] London 25th December 1927
 ————
 At the sight of this **SECOND** of Exchange
 (First of the same tenor and date unpaid) pay to the order of
 "HONGKONG AND SHANGHAI BANKING CORPORATION," the sum of
 ————
 Value received which places to account of £2,245 15s 6d
 drawn under Letter of Credit ————
 To The Oriental Fibre Mat. Mfg. Co.
 ————
 Registered in FAYAMLE LONDON

Fig. 4. A facsimile bill of exchange In this example the bill is drawn by a British firm in China on a second firm in Britain The latter is required to pay the amount of the bill to a specified bank in London on receiving from the bank the shipping documents relating to the consignment described Bills are often prepared in triplicate, each copy being sent separately to avoid risk of loss this explains the term "Second of Exchange" in the above example

Where the British bank has complete confidence in both its own customer and the foreign buyer of the goods, it may discount the bill of exchange, i.e. it may advance the money, less the charge for discounting, as soon as the document is made out, subject always to the proviso that if the foreign customer should fail to meet the bill, the British exporter remains liable to refund the money to the bank

4 **Documentary Credits** Here the foreigner establishes a credit with his own bank in favour of the British exporter who is told by the British agent of that bank that he may draw bills of exchange under the credit Documentary credits may be revocable or irrevocable The former type may be cancelled at any time without notice, consequently an exporter would not consent to the opening of a credit of this kind when the contract was being entered into unless he was dealing with someone whom he knew to be absolutely trustworthy The latter type of credit carries the issuing bank's absolute guarantee of payment, it cannot be cancelled without the British exporter's consent If the latter wishes to make assurance doubly sure, he may ask for a confirmed credit In this case the British bank joins the foreign bank in giving its confirmation

SELF-TESTING QUESTIONS AND EXERCISES

- 1 Describe fully the uses of a bill of lading
- 2 How does an export invoice differ from an invoice used in the home trade?
- 3 Give the constituent elements of a c i f price
- 4 Explain how an exporter in this country tries to make sure of receiving payment from a foreign importer
- 5 Explain (a) T/T, (b) bank draft

The answers to the questions are on pages 484 and 485

LESSON SEVEN

IMPORT TRADE

REFERENCE to the table at the end of Lesson Three will show that roughly forty to fifty per cent of Britain's imports consists of foodstuffs. Food, raw materials and partly manufactured goods together account for between seventy and eighty per cent of her imports.

Britain is absolutely dependent on foreign sources for the supply of tropical and sub-tropical produce, which normally provides a plentiful diet for her 47,000,000 of people. She also relies on foreign countries for the bulk of her raw materials; Britain produces coal for her own consumption and has some for export; she satisfies part of her needs in respect of iron, wool, and timber, but for the rest she is absolutely dependent on foreign supplies. Partly manufactured goods are those which have undergone some preliminary treatment before arriving in this country; clearly it is right that these should be included with raw materials. The manufactured goods are largely the specialities of other countries—the silks, the fine wool goods, the glass, the gloves, toys, watches and musical instruments. It is also true that a lower standard of living in some foreign countries has helped them to place manufactures in this country, in spite of the import duties imposed.

Entrepôt Trade

This is the name given to that portion of Britain's foreign trade, largely centred on London, which consists in re-exporting products previously imported. This trade, which amounted to £59,000,000 in 1887, rose to £100,000,000 in the early years of this century, and fell to £75,000,000 in 1937, having been injured by the tariffs of the post-1931 period. Add the 1937 figure to those in the table at the end of Lesson Three, and you will have a complete picture of Britain's foreign trade in that year, and an idea of the proportion which the entrepôt trade bore to the total. Products from all parts of the world come to London's warehouses, there to be re-assembled and sent chiefly to the Continent. This trade is useful in providing one of Britain's invisible exports, since the services of London traders in this connexion must be paid for by foreigners.

Methods of Importing

It is necessary to distinguish between the importation of manufactures and that of raw produce; in the former case quality is usually identified with the firm making the goods through patents, trade-marks and brands. In the latter case the place of origin is the more important. In both cases there may be direct dealing, or an intermediary may be employed. The commonest methods are these:

1. *Foreign Exporter's British Branch or Agency.* This is the method commonly employed for the importation of foreign manufactures, though between the two wars there was an increasing tendency for certain countries sending dairy produce to establish their own importing agencies here. A foreign manufacturer may even open his own retail shops in this country, organizing them by means of a subsidiary company registered here.

2. *Independent Importers.* Firms of this description carry their own stocks, finance the foreign producer, and take orders from British buyers.

3. *Consignment.* Goods imported on consignment are received in this country by an agent or consignee. The foreign producer—the consignor—sends a pro forma invoice with the goods in order to advise the consignee as to the price he is expected to obtain. When the goods are sold, the agent sends an Account Sales to his principal, showing the gross amount realized, less his expenses and commission. The expenses will generally include Customs duties, landing and warehousing charges. The net sum due to the consignor will be remitted by bill of exchange or bank draft. If the consignee has promised to be responsible for any bad debts, he will receive an extra commission termed a *del credere* commission.

4. *Direct Buying by Manufacturers.* This will be done where the British manufacturer operates on such a large scale that he can afford to dispense with intermediaries, or deal with foreign exporters who have no branch or agency in this country. He may have secured control over the sources of his supplies of raw materials. Raw cotton is imported direct by the majority of the larger manufacturing firms.

Customs Procedure

Entry of Non-Dutiable Goods. When goods are imported, Customs forms must be filled up in order that trade statistics may be compiled. These forms are known as Customs entry forms, or entries. The forms contain the name of the port, the dock or station at which the goods are received, the name of the ship, the date when the captain's report on berthing was made to the Customs authorities, the marks, numbers, description, quantity and value of the goods, and the name of the place from which they were consigned. The importer or his agent must sign the form and vouch for the accuracy of the contents. He must then exhibit the form to the Customs officials as soon as the vessel is alongside the quay; the form (which is in triplicate) is examined and signed by the officer in charge. The first copy (the bill) is retained by the Customs; the second copy (the warrant) is given to the ship's officer in charge of the unloading; the third copy (the duplicate warrant) is returned to the importer.

Entry of Dutiable Goods for Home Use ex Ship. In this case the filling up of forms is required for the additional purpose of assessing accurately the duty payable. An "entry for home use" is made out, giving full details of the goods, and stating the destination of the goods in Great Britain and Northern Ireland. The importer may be required to produce the original invoice as evidence of value. The forms will vary according to whether the duty is specific, i.e. levied according to weight or quantity, or *ad valorem*, i.e. levied according to value.

Entry of Dutiable Goods for Warehousing. Bonded Warehouses. The importer of dutiable goods may not wish to take delivery as soon as they arrive. The duty may be extremely heavy and he may wish to take delivery by instalments, or he may wish to have time to find customers for the goods. Then he will place the goods in a Bonded Warehouse. This is a warehouse owned by a company which has given an undertaking to the Government that all dealings with dutiable goods shall be carried out

in a lawful manner. The importer pays a small charge for the warehousing, and he may repack the goods, arrange them in lots for selling purposes, take samples, and generally speaking, deal with the goods as if they were in his own possession. All these operations, however, must take place under the supervision of a Customs official.

When the owner of the goods wishes to take the whole or any part out of bond, he must present a home consumption entry to the Customs officials, and pay the appropriate amount of duty. The issue of a duty receipt authorizes the warehouseman to release the goods.

Any duty paid on goods arriving in this country will be repaid if the goods are re-exported. Such a repayment is termed a Customs drawback.

Transshipment

As we have already seen, there is a great deal of business in London connected with the re-export of goods previously imported. They may be represented by a through bill of lading, or the bill of lading may be marked "in transit." The transshipment is supervised by the Customs authorities, and if the goods are non-dutiable the importer fills in an "entry for free goods in transit on through bill of lading"; if they are dutiable, all concerned—importer, carmen, lightermen—give bonds to the Customs for the proper performance of their duties. Dutiable goods for transshipment are entered on a transshipment delivery order, a bond note for transshipment and exportation, and a shipping bill for transshipment goods only.

SELF-TESTING QUESTIONS AND EXERCISES

1. What purposes are served by bonded warehouses (a) from the standpoint of the Government, (b) from the standpoint of the importer?
2. Define: (a) Customs drawback; (b) *ad valorem* duty; (c) specific duty.
3. Estimate the importance of the entrepôt or transshipment trade to Britain.
4. How can a British importer obtain possession of dutiable goods?

The answers to the questions are on pages 485 and 486.

LESSON EIGHT

DEALINGS ON EXCHANGES

An exchange (bourse on the Continent) is a permanent centre for organized dealings, chiefly in raw produce. These permanent centres developed out of the custom of business men meeting together in certain places to buy and sell. The fact that the trade is mostly in staple commodities for which there is a constant demand, e.g. wheat, makes it imperative that bargains shall be concluded quickly. Hence trade may be done on the basis of sample—a small quantity taken from the bulk—though even this practice is unnecessary in the case of commodities such as cotton and wheat, where cargoes may be sold before they arrive at a port in this country, and where transactions relating to crops which are still to be harvested may be carried through.

The quality of cotton and wheat is determined by reference to standard

samples or types, which form the basis of grades; the standard samples are taken from a previous year's crop, but as the quality does not vary from year to year it is quite possible for these standard samples to be relied on in making current bargains.

Liverpool Cotton Association. Founded in 1882, the Liverpool Cotton Association has long been the largest spot cotton market in the world, offering facilities for the sale, purchase and finance of cotton from every producing area. It has a membership limited to six hundred firms, comprising importing merchants, brokers and spinners. The activities of many of these firms were drastically affected by the Government's decision in March 1946 to continue the wartime procedure for the central purchase of cotton, thus eliminating the futures market which formerly operated.

Manchester Royal Exchange. This exchange provides a central meeting-place for members connected with every phase of the cotton trade and the trades linked with it: spinners, weavers, doublers, yarn agents, packing and forwarding agents, cloth merchants, as well as dealers in chemicals, dyestuffs, leather, etc. Business on the exchange is mainly done by private dealing.

The construction of the Manchester Ship Canal, opened in 1893, added to the importance of the exchange by making Manchester a port. About 750,000 bales of cotton are imported annually into Manchester.

London Corn Trade Association. This association controls the London Corn Exchange, of which there are about one thousand members, comprising two hundred and fifty firms with stands on the floor of the exchange. The business of these people is to sell grain to merchants and millers, the grain coming in the main from foreign and Dominion sources, though there is a small quantity of home-grown produce marketed. The three market days are Monday, Wednesday and Friday. The association standardizes contracts, and preserves samples taken from the grain elevators for use as deciding factors when contracts are challenged.

Futures Contracts

The production and distribution of commodities to-day is carried on largely in anticipation of demand by consumers. Hence it is important that manufacturers should look ahead and put themselves in a position to secure supplies of raw material in order to fulfil orders which they have booked for future delivery. For this reason futures contracts have arisen, as opposed to spot contracts, i.e. contracts for immediate delivery.

In order that a market in futures shall function effectively certain features are essential:

1. That the commodity shall be a raw material whose supply is liable to vary from year to year. Wheat and non-ferrous metals are examples.
2. That the commodity is one whose price is subject to continuous fluctuation.
3. That the commodity is available in substantial units of quantity, e.g. 500,000 lb. of wheat.
4. That the commodity is gradable, and that the futures contract shall refer to a standard or contract grade.
5. That the form of contract shall be standardized.

6. That delivery shall be made at certain specified dates. Usually this means delivery in a specified month between the first and last days of the month or months named in the contract.

7. That there shall be a central office known as a Clearing House to facilitate the settlement of all transactions.

Taking the wheat market as an instance of one in which futures dealings are permitted, you will find there a specialized class of dealers, who study crop conditions and price movements, and are prepared to enter into contracts for the supply of wheat at some future date at a price based upon their expectations of the future. The miller is therefore safeguarded against price fluctuations, the expert dealer having taken this risk upon himself. When the time for delivery arrives, the wheat tendered may not be of the same quality as the basis grade on which the futures contract was founded. In this case the price will be adjusted either up or down from the contract price as may be necessary.

It is hardly likely that the expert dealer who originally made the futures contract will be the one to fulfil it by delivering the wheat. His principal object is to make a profit, and if, as a result of a change in the price, he sees an opportunity of doing so quickly, he will sell the contract to another dealer, receiving the price difference in his favour. The settlement of these differences is made through the Clearing House, which will also be responsible for settling the actual delivery of the wheat, when it ultimately arrives, against the final contract.

There is another aspect of futures contracts which may be noticed. They are used for hedging, that is, as a means of insuring against price fluctuations. For example, a miller may have bought wheat, and may wish to protect himself against a fall in the price of his raw material. Accordingly, he concludes a futures contract in the opposite direction, that is he sells ahead. Should the price of wheat fall, then the loss on supplies actually bought will be recouped by the profit gained by hedging on the future delivery contract.

As previously mentioned, the expert dealers are willing to buy or sell futures at the current market price for such contracts. They have specialized market knowledge, they study crop reports and are therefore able to judge the position ahead and determine prices accordingly. Future trends are anticipated before they happen, the price level is flattened, and sudden and violent changes are less likely to occur.

Against this advantage we may place the disadvantage that arises through dealers tampering with the market by artificially raising or depressing prices in order to make a profit, and the opportunity which is given for speculation by outsiders who have no expert knowledge of the commodities in which they are dealing.

SELF-TESTING QUESTIONS AND EXERCISES

1. Describe how a British importer may obtain from his bank a credit in his favour overseas.
2. What are (a) the advantages, (b) the disadvantages of futures contracts?

The answers to the questions are on pages 486 and 487.



Fig. 5. *Bales of newly imported wool on show at a warehouse in the London docks.*

LESSON NINE

SALES BY AUCTION: WOOL, TEA, FRUIT

THIS method is used to dispose of raw produce where inspection is necessary either because the goods are perishable, or because there is such a variety of qualities that standardization or grading is impossible. A central sales room is needed so that prospective buyers may come together; there must also be an abundant supply of commodities to attract a large number of buyers. The bulk of the commodities is usually warehoused at the docks, and samples may be inspected at the sale room itself.

Auction sales are conducted by brokers, who act as agents for both buyer and seller.

WOOL. Auction sales of wool take place at the sale room in Coleman Street, London, E.C. They are held six times a year. Most of the wool comes from Australia; other sources are New Zealand, South Africa, Argentina, Patagonia, and Asia Minor. The importation of wool is chiefly in the hands of merchants or agents who have received it on consignment terms, though British banks are also interested, since they take a large share in financing the import of this commodity.

On arrival, the wool is warehoused at the docks; selling brokers visit the warehouses and take a handful of wool from each bale to serve as a sample. It is on the basis of these samples that the brokers arrange the wool in lots for sale, the details being given in a printed catalogue. The brokers will also advise the importers as to the probable price which the wool will fetch. Prospective buyers may also inspect the wool; these

buyers may be the representatives of the large woollen and worsted firms, or they may be brokers who are employed to bid on behalf of the smaller firms, and they may represent either the home trade or some firm on the Continent. Clad in long white coats, the buyers look very much like umpires at a cricket match. (Fig. 5.)

An auction sale of wool presents a very animated scene, and the lots are disposed of in quick succession. The selling broker and the buyer mark their catalogues when bids are accepted. After the sale the two sets of markings are compared, and, if they agree, the auctioneer sends the buyer an invoice for his purchases. The selling brokers or auctioneers are usually paid a commission of $\frac{1}{2}$ per cent, this expense being shifted by the importer to the grower of the wool, and, in addition, each buyer pays a fee of one



Fig. 6. *An expert tea taster at work. On the result of these tests will be based the bids of his employers in the London auction rooms.*

shilling for each lot of wool that changes hands. Buying brokers commonly receive a fee of $\frac{1}{4}$ per cent for their services.

TEA. London is the world's principal tea market. The tea, imported by independent merchants or by agents working on commission, is stored on arrival in bonded warehouses until the duty is paid. Auction sales of tea take place at the Commercial Sale Rooms in Mincing Lane, and are conducted by brokers who are instructed by the importers. Catalogues of the teas to be sold are prepared, and these are dispatched to the large wholesale buyers, for example, the multiple grocery stores. These instruct their expert samplers to visit the warehouse so as to obtain small quantities of the teas for the purpose of testing them; since the tea is subject to duty an equivalent quantity must be left behind for each sample taken. The testing takes place by tasting, except in the case of the commoner qualities, which may be judged merely by the appearance and smell. The buyer will base his bids on the results of this sample tasting. He sends in his bid to the auctioneer, so that in the event of several buyers making the same bid simultaneously at the actual sale, and none being prepared to go higher, the buyer whose bid was first sent in secures the lot. After the tea has been bought, the buyer is allowed to take a second sample in order to make quite sure that he really has obtained the tea for which he bid. (Fig. 6.)

The teas are sold at so much per pound, each bid rising by $\frac{1}{4}$ d. Indian

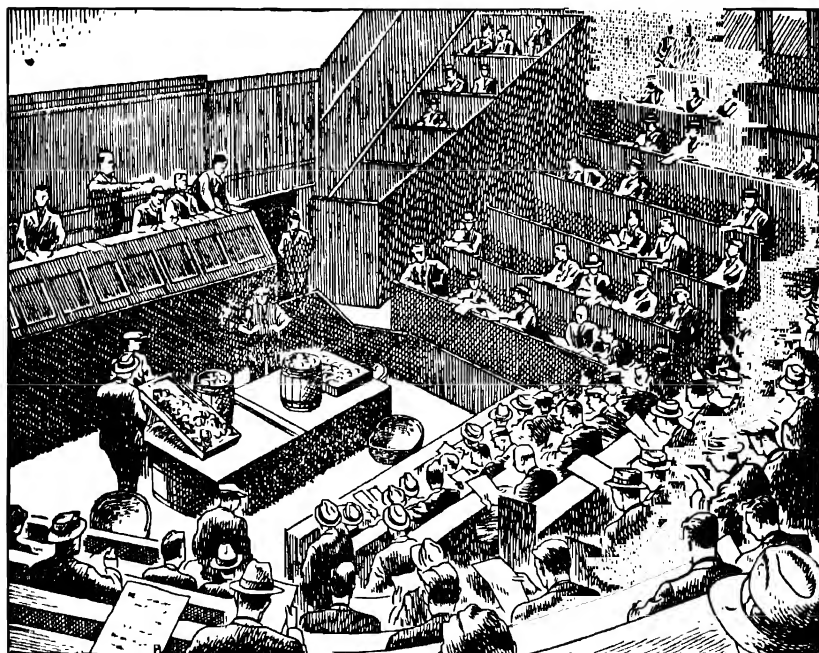


Fig. 7. Imported fruit being sold by auction in the London Fruit Exchange.

teas are sold on Mondays and Wednesdays of each week, China teas on Wednesdays, and Java teas on Thursdays. When the teas have been bought the buyer will proceed to make up the blends to suit the district for which they are intended.

FRUIT. The trade in imported fruit is centralized in the London Fruit Exchange, situated in Spitalfields. The procedure is similar to that described in the case of wool and tea. The bulk of the fruit is warehoused at the docks, and sample packages are on show in the exchange. Selling is conducted by auction, each selling broker having the use of the rostrum for half-an-hour at a time. (Fig. 7.)

SELF-TESTING QUESTIONS AND EXERCISES

1. Give an account of the activities of the broker in connexion with the import trade in raw produce.
2. Explain why some imported produce is sold on exchanges and some at auction sales.
3. What are the advantages of sale by sample?

The answers to the questions are on page 487.

ANSWERS TO QUESTIONS

Lesson One

1. The chief characteristics of British foreign trade during the nineteenth century were:

(a) An increase in the number and variety of foreign markets due to improved communications.

(b) A steady increase in the volume of foreign trade from the 40's owing to the adoption of a free trade instead of a protectionist policy.

(c) Increasing export of capital goods, e.g. machinery.

(d) The emergence of London as a centre of world trade, receiving cargoes from widely different sources and redistributing them.

(e) Increasing specialization of Britain's foreign trade, i.e. her exports largely manufactured products, and her imports chiefly food and raw materials.

2. The shrinkage of Britain's foreign trade between the two World Wars may be said to be due to:

(a) The growth of a spirit of economic nationalism or "autarchy."

(b) The spread of scientific research, technological development, and the process of countries learning from us and from others how to make the goods which they formerly imported.

(c) The feeling that it was not wise for a country's economic life to be too specialized—not to have all one's eggs in one basket.

(d) The feeling that it was not desirable for the country to be dependent on foreign supplies in the case of industries necessary to its defence.

(e) The fact that other countries which had not been actively engaged during the first World War had made good use of their opportunities to invade markets of which Britain had formerly possessed a good share.

(f) The emergence of petroleum as a source of power instead of coal, which was formerly one of our principal exports.

Lesson Two

1. "Visible" trade is usually understood to be the foreign trade in tangible goods, while "invisible" trade is the exchange of services, such as shipping, banking, insurance. The former may be accurately computed, while the latter is merely the subject of estimate.

2. The Balance of Trade is the excess of a country's exports of goods over imports, or vice versa. It is an expression which relates to "visible" trade only. When exports exceed imports, the balance is sometimes said to be a "favourable" one; while if imports exceed exports, the balance is said to be "unfavourable." The expressions date from Tudor times, when exports were directly encouraged in order to secure a flow of gold into the country which would be useful in time of war. It is necessary to point out, however, that a so-called "unfavourable" balance of visible trade may be compensated by a "favourable" balance of services.

The Balance of Indebtedness takes into consideration both "visible" and "invisible" trade; if total exports of goods and services exceed total imports of those items, then a country has a surplus available for investment abroad. On the other hand, if total imports of goods and services are the heavier, the country is either borrowing to make up the deficiency or realizing its foreign investments.

Entrepôt trade is transshipment trade, i.e. trade in goods imported not for use in this country, but intended for re-export. This trade is centred in London because of its close proximity to the Continent, and prior to 1931 it was of the order of £100,000,000 a year.

Autarchy is a term denoting a tendency on the part of a country to make itself self-sufficient, and to cut down its dependence on other countries to a minimum. It was the policy of Germany between the first and second World Wars.

3. The statement is true on the face of it, inasmuch as no country can export without taking some imports in exchange. But it should not be taken to mean that a country's exports and imports in any particular year will exactly agree. Firstly, as we have already seen, invisible as well as visible trade must be taken into account; secondly, a country makes up its annual accounts at an arbitrary period of time, and goods bought in one year may not be paid for until the next; thirdly, there is the difference in the valuation of exports and imports respectively; and fourthly, the foreign trade figures of a country can only be made to balance by taking into account the capital factor, i.e. the investment abroad of an export surplus, or the realization of capital abroad in respect of an import surplus.

Lesson Three

1. A Manifest is a detailed list of a ship's cargo.

The Official Import and Export List is a detailed classification of all goods entering and leaving this country. It shows the import duty on each class of dutiable goods, together with the unit of quantity for purposes of declaration.

C.i.f. means cost, insurance and freight. It is the basis on which all goods imported into this country are valued. In practice it means the value of imported goods at the port of arrival.

Net Imports are those goods imported from abroad which are retained here, and not re-exported.

2. British trade statistics are compiled from the declarations of importers and exporters according to the classification in the Official Import and Export List; the actual work of compilation is performed by Customs officers for the Board of Trade.

The information thus compiled is made available to the public in the Annual Statement and the Monthly Statement of the Board of Trade. The former contains an alphabetical list of imports and exports, together with details of Britain's trade with all other countries, and details of the trade arranged according to British ports. The latter gives total imports, exports of British products, re-exports, and net or retained imports.

Lesson Four

1. It is generally accepted nowadays that the attitude of a government in regard to foreign trade cannot be merely negative or neutral. It is necessary first of all, then, that a government should have a definite policy in foreign trade which will harmonize with its policy in home affairs. Another thing to remember is that only a government can watch effectively over the interests of consumers, who are not usually otherwise represented. Whether a government should take an active part in the execution of foreign trade policy, i.e. in actual business operations, is a debatable point. Perhaps the ideal system for a country such as Britain is for the government to define policy, and leave it to business men to carry out the policy thus defined.

2. The London Chamber of Commerce performs the following services :

- (a) Promotes or criticizes commercial legislation.
- (b) Makes representations in connexion with trade agreements with foreign countries.
- (c) Makes suggestions for the improvement of postal and telephone services.
- (d) Furnishes members with information concerning Government Regulations and Trade Statistics.
- (e) Helps in the settlement of trade disputes by arbitration.
- (f) Publishes an official monthly Journal.

3. British manufacturers may help to extend foreign trade by making representations to the Government when commercial treaties are under discussion. They may conduct research into the potentialities of foreign markets, either individually or through a body such as the Federation of British Industries. They may undertake joint selling in foreign markets in order to compete more effectively. Finally, they may assist their own long-term interests by taking an active part in the provision of technical and financial services for the benefit of those countries to which they hope to sell, i.e. they may make it possible for those countries to buy by helping them to sell their own products.

Lesson Five

1. The decline of the British merchant shipper during the present century may be attributed to the following main causes :

(a) New manufactured products entering into foreign trade have needed more specialized selling, technical knowledge of the goods, and sometimes service after sale. This is illustrated in the case of the export of motor-cars.

(b) Merchants in foreign countries have begun to take a larger share of local importing business for themselves.

(c) Foreign trade has been hindered by government restrictions of various kinds, especially since the first World War. Customs tariffs have been increased, or new ones have been set up; some countries have seen an increasing share of their foreign trade conducted by the State; difficulties have been placed in the way of securing payment for export orders, and instead of foreign trade being left free, as it was in the nineteenth century, countries have tended, to conduct it more and more by means of direct barter transactions.

2. Group selling is a valuable means of furthering export trade where manufacturers are in a small way of business and have not the resources to develop foreign markets on their own account. The method is particularly useful where the products of the manufacturers concerned are complementary, as in this case foreign buyers can be more easily catered for. Costs of market research, advertising, propaganda, and the establishment of showrooms can be shared with other manufactures.

Lesson Six

1. The uses of a Bill of Lading are as follows :

(a) It is the symbol of goods at sea, and represents goods in very much the same way as a cheque represents cash. Possession of the bill of lading is equivalent to possession of the goods, which may be transferred from one owner to another by endorsement of the bill of lading.

(b) It contains the terms of the contract of carriage; this is particularly the case when a ship is carrying the goods of a number of different shippers; in these circumstances a bill of lading is made out for each particular cargo, stating the risks for which the shipowner accepts liability, and those from which he regards himself as exempt.

(c) It is an acknowledgment that goods have been received on board a vessel, and is usually handed over in exchange for the mate's receipt.

(d) A bill of lading, being a document of title in the sense that it is proof of the possession of or control over goods, may be used as a security in connexion with obtaining an advance from a bank. It must also be surrendered to the shipowner or his agent when delivery of the goods at destination is required.

2. An Export Invoice differs from a Home Invoice in so far as the former contains items which would not be found in the latter, e.g. marks and numbers of cases, ocean freight, marine insurance, shipping charges, and possibly the rate at which the sterling cost is to be converted into foreign currency.

3. The constituents of a c.i.f. price are as follows :

Cost of (a) goods at works or warehouse, plus packing; (b) cartage to station; (c) cartage to docks; (d) dock and loading charges; (e) harbour dues and cost of bills of lading; (f) freight; (g) consular invoices and/or certificates of origin; (h) marine insurance.

4. The British exporter who wishes to make sure of receiving payment from a foreign importer should request the latter to open a credit with his banker in his (the exporter's) favour. This credit may be (a) Irrevocable ; this carries the issuing bank's absolute guarantee of payment. (b) Revocable ; this may be cancelled at any time without notice. (c) Confirmed ; here the paying bank and the issuing bank join in guaranteeing payment. A Confirmed Irrevocable credit is the safest of all.

The foreign importer would have to fill in a form giving particulars of the British exporter, the amount of the credit, the period of the credit, etc. When the British exporter receives advice of the opening of the credit he ships the goods and prepares the shipping documents, which are attached to the bill of exchange which he draws on his foreign customer. The exporter then sells the bill of exchange to his bank, and is thus able to obtain payment when the goods are dispatched.

5. (a) A telegraphic transfer is the counterpart in foreign trade of the telegraphic money order in home trade. It is the quickest way of sending money from one country to another, and, naturally, it is the most expensive. A transfer is obtained on application to a bank, which, on payment of its charges plus the cost of the cable, will advise its agent, another bank abroad, to pay the sum of money involved to the person named in the transfer.

(b) A bank draft is a cheque, drawn by one bank upon another bank, and is obtained by the remitter filling up a form stating the place of payment, the person to whom the money is to be paid, and the amount in foreign money and sterling. It is perhaps the simplest way of sending money from one country to another.

Lesson Seven

1. Bonded warehouses serve the following purposes :

(a) From the standpoint of the Government :

(i) They are the means of ensuring that dutiable goods are not withdrawn for use until the duty has been paid.

(ii) They enable the statistics of imported goods to be compiled more accurately.

(b) From the standpoint of the importer :

(i) The bonded warehouse is a place where the goods may be stored until the importer needs them.

(ii) In cases where the duty is heavy, it is a convenience to be able to warehouse the goods and to withdraw them in instalments, as required. Duty need only be paid on the portion withdrawn at any one time.

(iii) While the dutiable goods are warehoused, the importer may deal with them as if they were in his own possession, subject only to the rule that a Customs officer must be present. Thus, the importer may prepare the goods for sale ; he may take samples, blend, pack, and bottle the goods.

2. (a) A Customs drawback is a repayment of duty originally paid on imported goods when those goods are withdrawn from a warehouse, not for home use, but for the purpose of re-export.

(b) An *ad valorem* duty is one which is assessed on the value of imported goods. For instance, a duty of $33\frac{1}{3}$ per cent on the value of motor-cars

imported into Britain is an *ad valorem* duty. Such a duty, of course, will fluctuate with changes in the price of the article on which it is levied.

(c) A specific duty is one levied on specific units of weight, quantity, measurement or volume, and is not affected by changes in value. A specific duty may be levied by weight, e.g. so much per lb. as in the case of cigars imported into this country.

3. The entrepôt, transshipment, or re-export trade is not now quite so important as in Free Trade days. Up to the time of the first World War, merchandise of varied character from all quarters of the globe came to London's warehouses to be re-distributed mainly to the Continent. Raw wool, raw cotton, coffee, tea and rubber were the principal commodities dealt with in this way. After the departure from Free Trade in 1931, the re-export trade suffered somewhat, since for trade of this kind it is essential that the goods should be able to flow with the least possible hindrance, and the imposition of duties in this country was a handicap. An additional factor of a depressing character has been the contraction in international trade generally.

4. When an importer requires dutiable goods immediately, he fills in a form known as an "Entry for Home Use". This form contains full details of the goods, and states their destination in this country. The importer pays the duty at the Customs House, and the goods are delivered to him on the instructions of the examining officer on board the vessel. The "Entry for Home Use" is made out before the goods are examined. If it should turn out afterwards that the quantities are not correct, an adjustment of the duty paid is made later.

Should an importer wish to have the goods warehoused instead of taking delivery immediately, he will fill in a form known as an "Entry for Warehousing." This form, together with a Landing Order, authorizes the Customs officer to allow the goods to be landed as required.

Lesson Eight

1. The British importer would approach a bank, and arrange that the bank should accept bills of exchange drawn on him for the transactions under contemplation. The importer would have to fill in a form giving the following particulars :

- (a) The name and address of the foreign exporter.
- (b) The amount of the credit.
- (c) The period of the credit.
- (d) Whether the bills of exchange are to be drawn on the bank or on the importer himself. (It is an advantage that the bills should be drawn on and accepted by the bank ; this gives a guarantee that the bill will be paid, and enables the bill to be discounted—sold before its due date—at a lower rate of interest than if it were drawn on the importer himself).
- (e) The exact nature of the documents to be surrendered.
- (f) The nature, quantity, quality and description of the goods that are to be shipped.

The credit obtained may be one of the following three kinds—irrevocable, revocable, or confirmed. (See Lesson Six.)

2. The advantages of " futures " dealings are :

- (a) Fluctuations in prices become less frequent and less violent.
- (b) By means of these contracts, merchants and manufacturers may insure themselves against unfavourable price movements.

The disadvantages are :

(a) Speculation is encouraged among people who have no expert knowledge of the commodity in which they are speculating. It is said that prior to the American financial crisis of 1929, most of the large hotels had rooms which their habitués could use for this purpose, and where the latest prices from the produce and stock exchanges were received by wire.

(b) The expert dealers themselves may deliberately try to force prices up or down so that they may make a profit.

Lesson Nine

1. Brokers are agents whose function is to link buyers and sellers together ; they are remunerated by a commission or brokerage, calculated on the value of the commodities exchanged. In the case of imported produce, they will store the goods if required, or dispose of them according to the instructions of the importer. If the goods are to be sold by auction, the broker will arrange them into lots suitable for sale, prepare catalogues, take samples, and attend to the necessary Customs formalities.

There are also brokers who act as agents for firms, either British or foreign, who wish to buy.

The broker is one of the specialists of trade ; he performs the numerous duties in connexion with the importation of produce much more efficiently than the owners themselves could do, with a resultant benefit to the merchants and manufacturers who employ him, while the consumer gains through prices being lower than would otherwise be the case.

2. Commodities are dealt in on exchanges when they are divisible into a small number of well-recognized qualities or grades, which maintain their consistency over a long period. Cotton, wheat, and the non-ferrous metals are dealt with in this way. The gradability of these commodities allows of the development of a highly organized market, with dealings in " futures."

In the case of commodities which are either perishable or which are not gradable because of the large number of varieties, sale by auction on the basis of sample has to take place. Wool and tea are two of the best known examples of this method of selling. There are 800 or 900 different varieties of wool, and the broad divisions of tea into Indian, China, etc., are further subdivided into an infinite number of varieties depending on the altitude of the tea garden and the character of the soil.

3. The advantages of sale by sample are as follows :

(a) A reliable basis is provided for ascertaining the quality of the bulk of the goods from which the sample is taken.

(b) Space is saved, since the bulk of the goods may be warehoused at docks, while the samples only are shown at the central market.

(c) Time is saved. Cargoes still at sea may be sold on the basis of sample.

(d) Should the bulk of the goods not correspond with the sample submitted, the buyer has a legal right to return the goods.

SECTION IX

PRODUCTION AND DISTRIBUTION

LESSON ONE

ECONOMICS OF PRODUCTION AND DISTRIBUTION

IN this section, the meaning of the term economics is explained, as the term is one regularly used in business and commerce, and it is important to know what scientists, called economists, mean by the term.

There are several words ending in "ics", for example—mathematics, mechanics and physics. They are, of course, the names of special sciences.

In the same way economics came to be a term used by economists. But long before this, writers used the longer title of "the study of political economy" for their inquiries. The term political was used to qualify economy, not in the narrow party sense that it is used today in parliamentary discussions, but in the widest sense to make economy cover the activities of the nation now organized often as a state. In the original Greek state the term economy was applied to the domestic unit, the household with its family and slaves. This widening of the scope of economic inquiry into the economy of a whole nation is brought out clearly in the title of Adam Smith's great book on the subject matter of economics, entitled *The Wealth of Nations*. It covered what modern writers call the "economy of nations" or to use our term "the economics of nations."

Economic Terms

Because economics is a science, economists use words with special and often restricted meanings compared with their popular use. The terms used by economists should be carefully noted and their definitions studied.

Many economic terms are introduced in the course of these lessons and assistance in their understanding is provided.

Let us start with the key word *wealth*, which is regularly used in the study of economics.

Economics is briefly defined by many writers as "the science of *wealth*," sometimes elaborated as "the science of the production and distribution of *wealth*" or more fully still as "the science of the production, transport, distribution and consumption of *wealth*." Note that *wealth* is emphasized in the above three definitions.

Wealth is certainly the core of economics. Wealth is a general term, covering a multitude of things. To possess wealth is to have things, goods, or property. Not all goods, or articles that are good for us, are considered wealth by the economists.

Essential Characteristics of Wealth

Goods, or articles must be first and foremost *useful*. They must be capable of satisfying a human want. Goods must possess what economists call utility. But to qualify as wealth, goods must possess two other attributes.

They must be *transferable*, that is, they must be able to be transferred from one possessor to the other, whether the possessor be an individual owner or a group of individuals, such as a company or society. In commercial terms the goods must be saleable at some price to be settled between one possessor and another.

The goods must be *valuable* or possess *value*, which can be expressed as a price in terms of some recognized currency, in £ s. d. or in \$ for example. Some writers state that the essential attribute of a valuable article is the fact that it is limited in supply. Others claim that the amount of labour embodied in an article, rather than its scarcity, decides its value. These points will become clearer in the lessons on value and on labour.

Is Wealth Material or Immaterial?

So far we have stressed the material character of wealth, goods or articles that satisfy human wants. The bulk of the wealth of a nation consists of material, tangible goods, but in commerce and trade intangible services are considered and assessed as wealth. For example, in business transactions, purchasers often pay for an intangible but nevertheless a real asset called goodwill.

Some early economists have attempted to include the value of human beings as part of national wealth, but this is discredited by modern writers. But even some modern writers consider the value of certain intangible but direct services, *not* resulting in any addition to the existing supply or stock of goods, to be a contribution to the wealth of a country. This feature will become clearer after reading the lesson dealing with national wealth and income.

But we must stress that in economics the emphasis is chiefly on the material character of wealth.

All wealth appears first in the sphere of production. The process of production often involves a good deal of transport. Then before wealth proceeds on its next journey in its economic career, there is still more transport of wealth from the sphere of the producer towards the region of the customer. When wealth is being considered as articles priced ready for sale then we enter on problems called the distribution of wealth. The disappearance or final using up of wealth forms a special study called the consumption of wealth. We are concerned in this lesson only with the production and distribution of wealth.

Production and Distribution of Wealth

The production of wealth results in the manufacture of *products* fashioned or created by utilizing and altering *raw materials*, so as to produce what are often termed finished articles or goods. Nature is prolific in its supplies of raw materials out of which man produces products. In the economics of a nation like ours most products are intended not for immediate consumption by the producer, but for sale to a customer or purchaser. Some writers call such products commodities. So a commodity is a product for sale. Merchants refer to such goods as merchandise.

In the everyday discussion of wealth the terms raw materials, products, commodities, goods and merchandise are used as though interchangeable.

The table below may assist you to summarize the points that have been stressed

<i>Pre-Production</i>	<i>Production</i>	<i>Distribution</i>
In Nature	In factory	In shop or market
as	as	as
raw materials	products	saleable goods, commodities or merchandise

The subject will be made clearer by the consideration of the following illustrated examples

Figs 1, 2 and 3 illustrate the successive stages in the production of a pencil, a boot, and the book you are now reading. They tell you the life

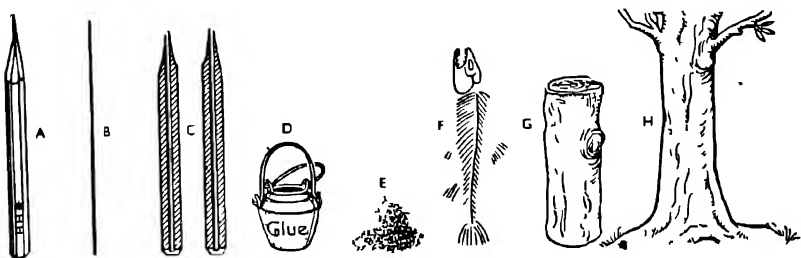


Fig. 1. Stages in the production of a lead pencil (A) The complete pencil, (B) lead core, (C) hollowed wood strips, (D) glue, (E) graphite, (F) fish-bones, for making glue, (G) log, (H) tree

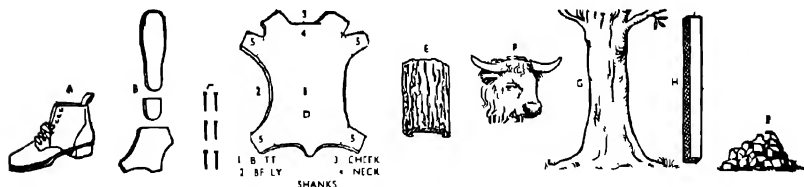


Fig. 2. Stages in the production of a boot (A) The finished boot, (B) leather, (C) nails, sprigs, (D) skins, hide, (E) bark, used in the process of tanning, (F) ox, (G) tree, (H) steel (I) iron ore

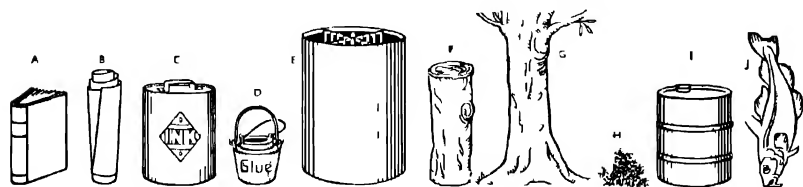
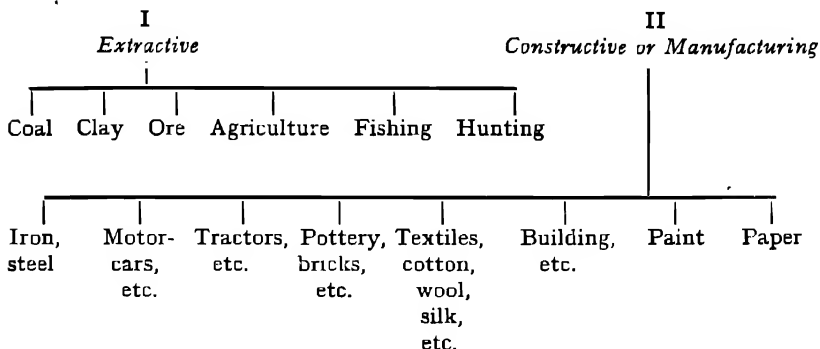


Fig. 3. Stages in the production of a book (A) The finished book, (B) paper; (C) printer's ink, (D) glue, (E) pulp, (F) log, for the manufacture of pulp, (G) tree, (H) lamp-black, (I) oil, (J) fish

story of each, starting with the finished article and working back through the various stages to the original raw materials.

Try this exercise for yourself. Set out the raw materials that go to the making of your cap, gloves, tie or bicycle.

Production today is mostly carried on by various industries, which can be broadly grouped as shown below into extractive and constructive or manufacturing.



Note how the extractive group of industries in I often supplies the raw materials for the manufacturing group of industries in II.

LESSON TWO

OCCUPATIONS

WE have already seen how the production of wealth is carried on in various industries. We now want to pursue a little further this inquiry into the production, transport and distribution of wealth.

How are industries carried on? How are goods transported? How are commodities bought and sold?

One answer is: by people being occupied in these economic activities. If people are so occupied, we say they are engaged in certain occupations.

Take another glance at the table of industries given above. Then study the list of occupations placed opposite each industry in the following list. If you are familiar with any one or more of these industries, you can add to the number and variety of the occupations.

Manufacturing Industries

Motor-cars—engineer, mechanic, fitter, upholsterer, painter.

Tractors—engineer, mechanic, fitter, riveter, welder.

Pottery—potter, jigger, jollier, turner, painter, tiler, fireman.

Textiles—spinner, weaver, bleacher, dyer, warper, twister.

Building—joiner, carpenter, plasterer, mason, bricklayer.

Paint—miller, mixer, chemist, packer.

Paper—pumpsman, pulper, vatman, rag-sorter, chemist, packer.

Extractive Industries

Coal—collier, miner, haulier, timberman, ostler, pumpsman, fireman.

Clay—quarryman, loader, engineman, borer.

Ore—miner, haulier, engineman.

Agriculture—farmer, shepherd, ploughman, horseman, cowman, reaper, harvester, thatcher.

Fishing—fisherman, boatman, skipper.

Hunting—hunter, trapper, skinner.

The above list is only a fraction of what an official of the Ministry of Labour could display, setting out in detail the multifarious and specialized occupations or jobs to be performed in the scores of industries throughout the country.

Industries in themselves are specializations. They require special skill, knowledge and experience, before those occupied can perform their duties and produce wealth. However versatile a man is, he can never move from one industry into the other and perform satisfactorily all the jobs expected of him in all the various occupations listed above. Industry to-day demands specialists, persons trained to particular jobs or types of work. This specialization is referred to in economics as the division of labour, a term which is explained in greater detail below.

Division of Labour

If you consider all industry as an economic process of employing individuals to work, their labour has to be split up into separate tasks, jobs or occupations.

Let us take a simple illustration from the building industry. One man cannot possibly carry by himself a sixty foot ladder from the builder's yard to the building plot, where it is required. So the job of carrying the ladder is divided between two men, one carrying the fore part and the other lifting the rear portion. This is an example of what is called *simple division of labour*, because the two individuals concerned share the *same* type or kind of labour.

But all jobs in industry are not as simple as carrying a ladder. A particular job to be done in industry may involve the co-operation of several persons doing *different* kinds of work. This is referred to as *complex division of labour*. Let us illustrate again by an example from the building industry. Let us follow the two men who have carried the ladder to the building site. Fig. 4 shows several craftsmen doing different jobs, such as joiners, bricklayers, tilers, plumbers and carpenters. We can safely leave it to your imagination to add the craftsmen required to complete the inside of the house, when once it has been erected—painters, decorators, electricians, paperhangers, glaziers and plasterers.

Industry is much more complex today than a century ago. The more complex and intricate it becomes, the greater is the division of labour. The full reasons for this will only be made clear as you proceed with later lessons, but for the present the main explanation is due to the increasing use of machinery and the expanding application of power to the processes of industry and various forms of modern transport.

In short, the explanation is scientific invention.

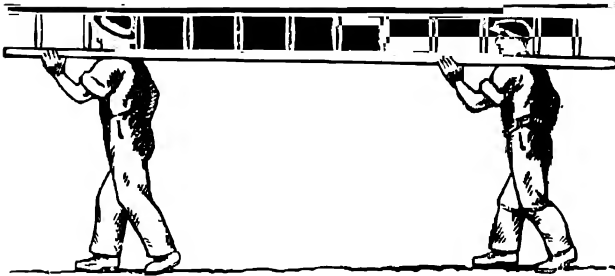


Fig. 4. *Examples of the division of labour. Two men carrying a ladder are an example of simple division of labour, while a number of men engaged in different tasks in the building of a house illustrate complex division of labour.*

Advantages of Division of Labour. Let us enumerate briefly some of the distinct advantages.

1. A worker, by specialization, becomes more efficient.
2. A worker learns one job or trade more quickly by concentrating on one task than if employed on several.
3. Great saving of time and energy in using the same tools or machinery.
4. An increased volume of output is achieved.

5. A substantial reduction in the costs of production is effected.
6. Quality of products made by professionals is better than that of amateurs.
7. Routine jobs lead to the perfection of tools and the improvement of machinery through invention.
8. Contact with intricate machinery and scientific instruments requires a higher standard of intelligence among the workers.
9. This leads to a greater knowledge of science and the wresting of secrets from nature.
10. All this scientific knowledge leads to the invention of more labour-saving devices, further reducing the cost of production and extending the range of products.

Disadvantages of excessive Division of Labour. There are disadvantages in division of labour, especially if ruthlessly carried out without regard to the interests of the workers.

1. The more complex the division of labour in an industry, the more delicate industry becomes and the more easily industry is disturbed by strikes and lock-outs.
2. Workers feel mere cogs within the wheels of industry.
3. Routine or repetitive work often dulls interest in the work performed and leads to a dreary monotony.
4. A worker is less fitted to transfer to another job, when the demand for his particular service in industry slackens or ceases.
5. Workers are haunted by the fear that new machinery or inventions may take away their particular job.

Advantages outweigh Disadvantages. You can rest assured that the advantages of division of labour outweigh the disadvantages, or society would never have allowed the principle to be so extensively and progressively developed. Besides, industrial progress would be impossible if certain changes could not take place because of drawbacks. These very drawbacks are a challenge to the leaders of industry, to the inventors and the trade union representatives of the workers affected by the division of labour, to bring about other changes in industry to counterbalance these drawbacks. Often to correct these disadvantages, social and industrial legislation is necessary, in the form of Factory, Health and Unemployment Acts.

Division of Labour and Localization of Industry. This specialization of occupation within an industry underlies and explains the principle of localization of industry, which is a distinct characteristic of modern industry. This territorial grouping of industry in well defined localities will be the subject of our next lesson on nature and natural resources.

EXERCISES FOR PRACTICE

These exercises are based on the information given in the above lesson.

1. Give a list of occupations of those engaged in feeding you, clothing you, and providing you with shelter.
2. List occupations in a post-office, railway station, shipbuilding yard and gasworks.
3. Make a list of surnames which indicate occupations (like Smith, Turner).

LESSON THREE

NATURAL RESOURCES

You will recollect that in the pre-production stages of many commodities their component raw materials are found in nature.

As the sources of these raw materials are found in nature, these original raw materials of industry, trade and commerce are called natural resources.

The story of mankind is, in brief, the struggle of human beings to wrest from nature her secrets and to use the resulting raw materials as the basis of wealth. Sir William Petty, writer on economics in the seventeenth century, had a pithy sentence which stated that: "Labour is the father of wealth and Nature the mother."

Bountiful Nature or Mother Nature

You have often heard the phrase "Mother Nature" and after a good harvest you have heard the farmer refer to "the bounty of Nature." This latter term is a very wide one and covers, in its widest and most comprehensive meaning, the whole universe or cosmos. Man is in a real sense part of nature, but because man is a very special part of nature, with unique powers of body and mind, he is referred to as "human nature."

Nature is so comprehensive a term that it is very difficult to convey what it covers or what it does not cover.

What are natural objects? All objects not made by the hands of man is one answer. If a thing is made by man, it is not a natural object. A clay pipe is not a natural object, because it is fashioned and baked by man in a fire. The clay from which it is fashioned, however, is a natural object. It has been provided by nature and Father Time, by the grinding and powdering of granite blocks, that have finally come to rest in clay-beds.

The coal that you see in your coal scuttle by the fireside has not been placed there by nature. It has reached the scuttle, thanks to the labour of the coalman and the coal miner. The latter coaxed the lumps of coal, by pickaxe, drill and shovel and perhaps the help of a coal-cutting machine, from the coal seam, embedded in the bowels of the earth. But nature had first provided the coal seam as raw material. Nature and Father Time had transformed some decayed primeval forest of trees into carbon and petrified trunks, now known to us as coal.

Nature's Vast Resources

Now you can see the significance of Petty's sentence. Nature, as a bountiful mother, supplies human nature with all the raw materials required as basic elements of production. Nature is dependent on man for the conversion of this raw material into wealth. There is a dependence of one on the other. Without nature there would be no wealth, for there would be no raw materials. Without human nature there would be no wealth, for without mankind there would be no agents to convert the raw materials into finished articles, to be later consumed by mankind.

In its widest sense the term nature, as used by economists, covers more than the globe, with its five continents and seven seas. Our planet,

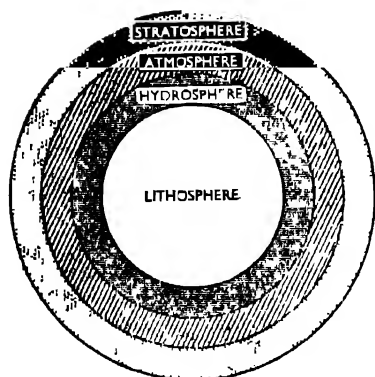


Fig. 5. *The four "spheres" of Nature*

The moon affects tides, which in turn affect our shipping movements and commerce. The nearness of the sun to the earth affects our seasons, making in rotation spring, summer, autumn and winter. The sun plays a major part in our climate and temperature, which vary from spot to spot according to the distance from the equator, distance from the sea, position of mountain ranges, prevailing winds and ocean currents.

Climate, sunshine, heat and cold, temperature and all other natural features affect the growth of vegetation. So also the progressive and evolutionary changes, geological, chemical and physical, that take place in the bowels of the earth, as well as on its surface, contribute to the provision of raw materials utilized by man.

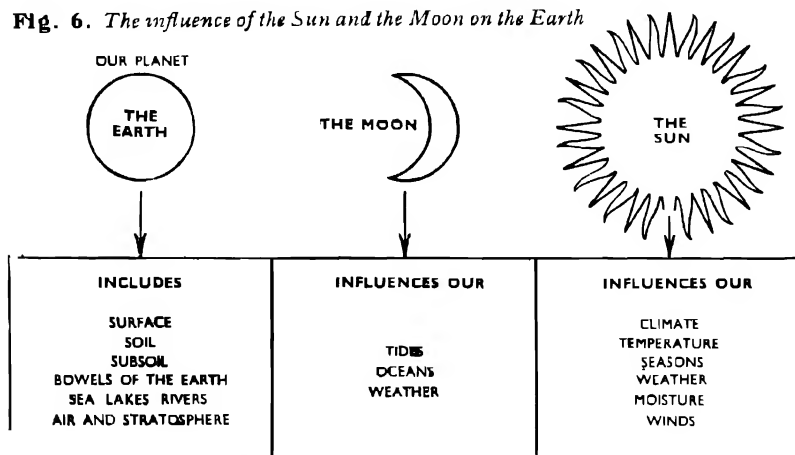
The details of all these planetary changes on the economic life of man are the subjects of study of many sciences—astronomy, geography, geology

the earth, as it spins in space, is more than an expanse of land and water. Scientists refer to the territorial expanse on the globe as lithosphere, the water expanse is termed hydrosphere, and the inner envelope of air around the globe is called the atmosphere, while the outer and higher envelope is called the stratosphere, a realm brought into the news these days with aeroplane conquests (Fig. 5).

Nature in Relation to Other Planets

The earth on which we live, especially that part called the hydrosphere, is affected by other planets.

Fig. 6. *The influence of the Sun and the Moon on the Earth*



physics and chemistry But in the illustration and table (Fig 6) we have attempted to simplify the main influences of the sun and moon on the economic life of the earth

Economists have traditionally used the term land to cover exactly what we have meant above by natural environment or nature The economic term land includes rivers, lakes seas, and oceans and all they contain Land in the economic sense is vital for all extractive industries as a storehouse of raw materials Land also has to provide the territorial site for all farms, fields factories, railways, canals, harbours and airports Land is an essential factor in the development of pits in coalfields and of quarries Land also is an important factor in providing suitable sites for shops and market places for the sale and distribution of goods to purchasers and consumers

Land and Localization of Industry

Under the paragraph dealing with the division of labour in our last lesson we referred to the localization of industry Certain parts of the British Isles have territorially set themselves apart to concentrate on certain types of industry The British coalfields provide the most obvious example of the localization of industry Pits and collieries are obviously situated on the coalfields where geologically the coal seams have been deposited by Nature Then, because deposits of iron ore and

various clays were found near the coal seams we find iron works developing on the coalfields, and in many coalfields to this day potteries have persisted The majority of these clay product making industries has clustered in the main around one locality on or near the North Staffordshire coalfield (See Fig 7) so much is this so that the term Potteries is known the world over as that thickly populated



Fig. 7. The pottery centres of Britain and principal sources of raw materials

A	1	COAL		
	2	POTTERY		
	3	IRON AND STEEL		
B	1	AGRICULTURE	12	PLASTER
	2	AGRICULTURAL	13	COPPER WORKS
		MACHINERY	14	GLASS
	3	ALUMINIUM	15	PAPER
	4	BREWING	16	PRINTING
	5	BRAID	17	PRINTING
	6	BOOTS AND SHOES		(LITHOGRAPHY)
	7	CONDENSED MILK	18	SANDSTONE
	8	COTTON TEXTILES		MILLSTONES
	9	CORDUROY	19	SILK
	10	CEMENT WORKS	20	TAPEWORKS
	11	LIME QUARRIES		

Fig. 8. *Tables listing the multitude of industries which are carried on in the main Potteries area. (A) Basic industries ; (B) Ancillary industries.*

area covered by the six towns, Burslem, Fenton, Hanley, Longton, Stoke and Tunstall, now federated in the city of Stoke-on-Trent. The Potteries has long ago exhausted its supply of local clays and depends on its supplies of basic pottery raw materials from Dorset, Devon and Cornwall, which come to the Potteries by rail, road, canal and sea. The fuel required to fire the pottery is still provided locally in the form of North Stafford coal or electric power generated from it. The Potteries as an area is also well provided with abundant supplies of water required to grind, cleanse and mix the basic ingredients of the industry.

Ancillary or Auxiliary Industries

When some basic industry like that of coal, iron or pottery becomes localized, there tends to grow up around that industrial centre a multitude of smaller industries or even trades subservient to the main industry. An excellent example of this concentration of ancillary industries is provided by the Potteries area. (Fig. 8.)

EXERCISES FOR PRACTICE

These exercises are based on the information given in the above lesson.

1. What natural resources are required to produce bread, butter, cheese, cake, a pencil, a woollen overcoat, a tin of salmon, a motor tyre, a sheet of notepaper and a pair of shoes ?
2. What natural features explain the growth of Liverpool, Manchester, Glasgow, Portsmouth, London ?
3. Can you give any natural reasons why Lancashire has specialized in the production of cotton, while Yorkshire has concentrated on the manufacture of woollen textiles ?

LESSON FOUR

LABOUR'S PLACE IN INDUSTRY

WE shall study in this lesson the economic meaning of the term labour, which is a general term used by economists to describe the human energy consumed by human beings engaged in various occupations. It is a general term for all types of human power exerted by all engaged in industry. If you are engaged on any job, or task, or performing a specific piece of work, then you are expending human energy or power called labour.

Conditions of Labour

As labour is some form of human energy, it is necessary to study the conditions under which this human energy is produced if we are to understand the characteristics of labour. The quality and quantity of human labour that any individual can contribute to an industry depend on many considerations. We will try to analyse these in order of importance.

Age. The quantity of labour or human energy expected from a child, say of six, is very much less than that expected from a strong lad of sixteen. At the other end of the age-scale, a person over seventy years of age cannot exert himself at any work or task as long as he could when he was, say, twenty years of age. The quality of the work varies in the same way.

Health. As strength of body often is connected with age, so also does one's health vary with strength of body. If you are really ill or sick in body, you cannot give your usual quantity or quality of labour.

Sex. There are certain types of work that are better performed by boys or men than by girls or women. In most industries this is recognized by the sex division of labour. For example, no girls or women are allowed by law to work underground in any colliery in Britain. But girls and women are such experts at nursing that in hospitals and sanatoria we find female labour mainly employed.

These three conditions are personal, but there are conditions which one can describe as social, i.e. dependent on the state of society. Let us examine them briefly.

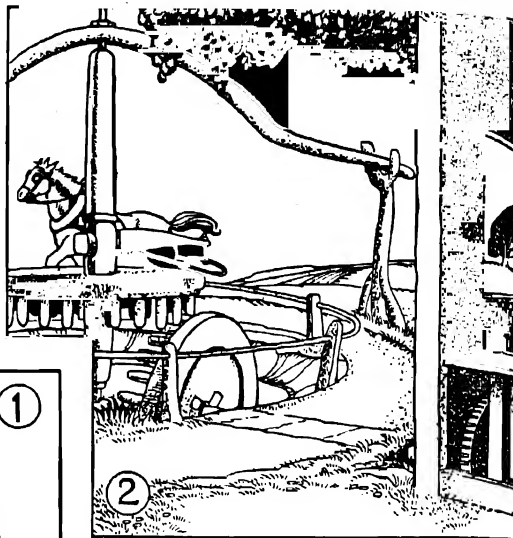
Standard of Living. The quantity and quality of labour contributed to industry is dependent on the standard of living of the person performing the labour. As the standard of living of a person or of a class of workers is reflected in the amount and the quality and the variety of food consumed by the person, these items must of necessity reflect the amount of physical energy possessed by the individual. The standard of his home will have a lot to do with the way in which his body will be recuperated in readiness for his next day's toil. His home life depends on the standard of living conditions. You can best realize the effect of standard of living on one's ability to do sustained and arduous tasks, by comparing the quality of the labour of a poorly-fed Indian peasant with that of a well-fed farm labourer in Canada or Denmark. Standards of living conditions, though social in character, become personal and affect to a marked degree the health and strength of individuals.

Educational Level or Technical Training. If workmen are badly trained

Fig. 9. *Contrasting types of power—human, animal, natural and artificial.*

(1) *Human* : A craftsman using his saw by applying hand labour.

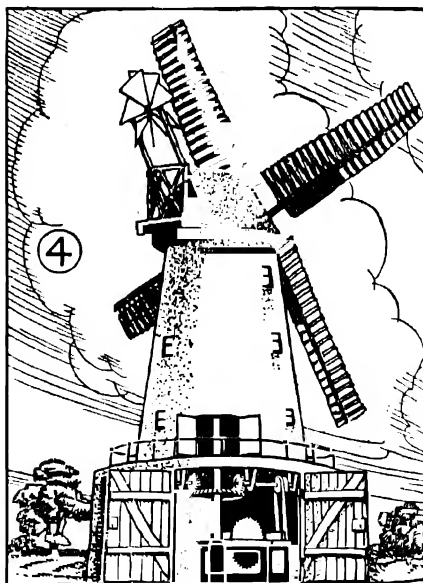
(2) *Animal* : A horse working a horse-gin to drive a circular saw.

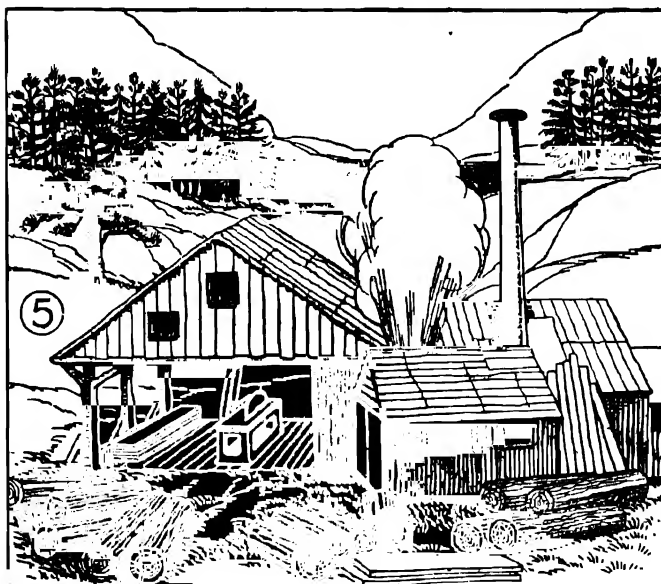
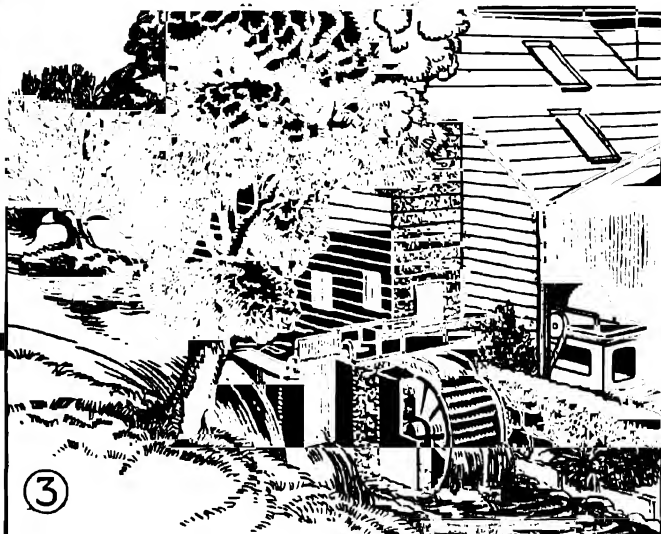


(3) *Natural* : Harnessing the natural power of falling water to drive a circular saw.

(4) *Natural* : Harnessing the natural power of the wind to a windmill, whose shaft turns a circular saw.

(5) *Artificial* : A man-made steam engine generating steam to drive a circular saw.





or their education has been neglected, then this will reflect itself in the quality and the quantity of labour performed. The performing of work or the expending of labour is not a mere operation of the body, it is also a mental operation. As education helps the individual to use his mind, it follows that a trained person is a better workman than an untrained person.

Location where Labour is Performed In certain parts of the globe it is too hot to work for long, the body cannot stand the heat and the exertion of working is too great. On the other hand, some parts of the globe are too cold for exerting one's labour. You have only to read of exploration at the Poles to know the strain on the bodies of the explorers. Working on the surface is easier and less arduous labour than that of the collier or of the deep sea diver or of the modern pilot flying in the stratosphere with an oxygen apparatus.

The body is very much in evidence in all forms of labour activities. We all recognize that typists use their hands in typewriting, but they use also their minds and eyes in reading the shorthand notes or the longhand of the script to be typed. Messages are being sent almost automatically from the typist's brain to the fingers to place certain finger-tips on certain letters of the keyboard. Mental messages pass from the typist's brain to her eyes to see the next word or line of her script. Typists, like all those who have to provide labour, use their senses (eyes, ears and touch) as well as common-sense which is a distinctly mental contribution.

Think out examples of labour yourself, and you will discover that the more labour is utilized with complex machinery, the more likely the expenditure of labour will involve not only the use of limbs, but the close and concentrated application of the mind.

You must spend time to do a job. At first you take a long time to do a difficult task; then later as you become more expert you do a job or task in much less time. This intimate connexion between labour and time explains why, in the paying for labour performed in industry, payment by time is very widely adopted, especially with beginners. You can only attain skill in labour by the expenditure of time in training or learning the job you will ultimately do. You are generally called an apprentice or a learner, when you start to labour in a factory. Later, you may be known as a journeyman. This last word strictly means someone paid by the day. Later the journeyman qualifies as a master-craftsman.

Labour and Craftsmanship

A man who has mastered a craft possesses skill or the power to produce finished articles. In the production of these articles a skilled worker or craftsman is very adept or skilful with his tool or tools. Think of the numerous tools that a skilled farmer can use. Look into the toolbag of a skilled carpenter or joiner or look into the kitbag of either a plumber or a highly skilled motor mechanic.

A skilled tool-user takes a delight in looking after his tools, and, when he can, improves them by means of invention. A simple tool can be joined to another simple tool and a complex tool can result. Indeed the combination of many of these simple tools or complex tools may necessitate, not the use of hands to operate the mechanism, but some other than-human muscular power.

Such for example is the big circular saw, that some carpenter invented to replace his simple but arm-tiring handsaw. Then we get the carpenter erecting a saw-mill, where originally the wheel was driven by natural power, obtained by water falling on the waterwheel. In some countries, where water was not available, wind was harnessed to the windmill to drive the saw-mill, as in Holland to this day. Where neither water nor wind was suitable, a horse was attached to the circular track of the shaft or gear that drove the saw-mill, just as you see in many farmhouses today, where horses or oxen are used to supply animal power to drive gins connected with chaff-cutters or other agricultural machinery too heavy to be worked by hand. In these days of steam and electrical power, even farmers do not have to rely on labour power or animal power to work or drive complex tools or mechanisms. (Fig. 9).

Now let us make clear the difference between a tool and a machine. A scythe is a tool; so is a saw used by hand. But a horse-drawn reaper is a machine, so also is a water- or wind-driven saw-mill. A very complex machine, especially if power-driven, is called machinery. Tools very often are manufactured by means of machines; such machines are called tool-machines and generally are very complicated.

EXERCISE FOR PRACTICE

This exercise is based on the information given in the above lesson.

Look up the industries mentioned in Lessons One and Two, and opposite the industries and occupations known to you, indicate a list of (a) tools used by labour and (b) the names of any power-driven machines to-day found in such industries.

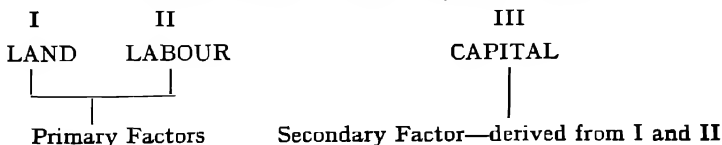
LESSON FIVE

CAPITAL

WE have already stressed in Lesson Four how labour or craftsmanship in various occupations came to use tools, later supplemented or sometimes supplanted by machines driven or operated by natural or artificial power. In this lesson, we shall try to explain how the term capital is used to describe tools, machines, engines, buildings and workshops containing special devices.

Although Petty stressed only two primary factors in industry—land and labour—modern economists have stressed the need for new terms to describe other factors essential in modern industry. Capital is one of these essential factors. Thus we arrive at an "economic trinity":

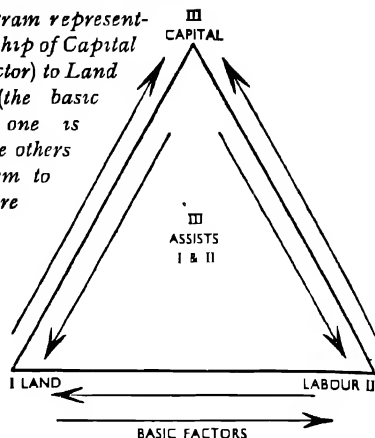
Economic Trinity—Land, Labour and Capital.



The above relationship between the three factors may be illustrated in the form of a triangle. (Fig 10).

The modern use of capital is applied to property, goods, chattels, commodities, stocks of goods, tools, machinery, factories, and workshops. In other words, capital today is wealth used to assist labour to produce more wealth from the products of land.

Fig. 10. *Diagram representing the relationship of Capital (a secondary factor) to Land and Labour (the basic factors). The one is derived from the others and assists them to produce more wealth.*



Capital in Modern Industry

Consult your chart at the end of Lesson One. Then you will see the part capital plays in each industry.

INDUSTRY

CAPITAL REQUIRED

<i>Iron and Steel</i>	.	Foundry, furnaces, coal, ores, lime, coke, rails, engines
<i>Motor Cars</i>	.	Factory, coal, steel, paint, rubber, petrol, nuts, bolts, motors, leather, glass
<i>Tractors</i>	..	Factory, coal, steel, iron, oil, petrol, nuts, bolts, engines
<i>Pottery</i>	..	Factory, mills, clay, colours, chemicals, paint, coal, gas, electricity
<i>Textiles</i>	..	Factory, spinning and weaving machines, rollers, engines, wool, cotton, silk
<i>Building</i>	.	Ladders, scaffolding, bricks, mortar, machinery, timber
<i>Paint</i>	..	Factory, mills, minerals, colours, ores, varnish, oils
<i>Paper</i>	.	Factory, rags, pulp, machinery, rollers, mills, pumps
<i>Coal</i>	..	Pit, colliery machinery, pumps, rails, timber, oil, pit ponies, trams, waggon
<i>Clay</i>	..	Quarries, ladders, ropes, buckets, shovels, picks, pumps
<i>Oil</i>	..	Quarry or pit, ladders, ropes, engines, tools, pumps
<i>Agriculture</i>	.	Farm, fields, gardens, manure, fertilizers, horses, cattle, pigs, sheep, outhouses
<i>Fishing</i>	..	Boats, vessels, nets, anchors, petrol, engine, sails, kegs, ropes, boxes
<i>Hunting</i>	..	Forest, park, packs of hounds, guns, traps.

Definition of Capital

Let us make it quite clear that capital is *not* land, nor *labour*, although capital is born of labour and land. Capital is the product of land and labour,

in the form of wealth, set aside to aid the further production of wealth, at a later date, by the joint use of land and labour.

It is convenient to classify the various examples of capital in industry tabulated above, into two groups—fixed and circulating capital.

Fixed capital is capital or wealth that needs no renewing over a long period, e.g. a factory. Josiah Wedgwood built a factory at Etruria in the Potteries in 1769. He added to the factory during his lifetime by expending more fixed capital. The old factory lasted till about 1941, when his successors had to spend more fixed capital to build a new factory at Barlaston, some miles from the old factory.

During these years, this firm spent a lot of another kind of capital, called *circulating capital*, for coal, clay, colour, straw, etc., which had to be used daily and weekly in the production of Wedgwood pottery. By circulating capital, we mean the wealth set aside to be consumed in industry from day to day during a short period. Note the element of *time* in capital, in deciding whether it is fixed or circulating capital. The provision of fixed capital involves industry in the expenditure of large sums of money, usually spent all at once. The provision of circulating capital means the expenditure of smaller amounts daily, weekly or monthly, but, when totalled up, these may reach a large amount.

Capital in relation to money, or finance. Because the provision of capital in the above sense involves the expenditure of money, in the purchase of both fixed and circulating capital, the capital of a concern is reckoned in sterling in Britain or in dollars in U.S.A. When economists deal with the money aspect of capital, they generally use the term *finance capital*, and are referring to the money value of the commodities, chattels, goods and wealth. Bear in mind this distinction between capital goods and the monetary valuation of such goods. In this lesson, we are for the moment stressing capital as tangible tools, plant, machinery and bulky commodities that assist labour and land as factors, rather than the financial items often referred to as capital in the books of bankers and shareholders.

Functions of Capital

Capital assists labour and land to be more productive or fruitful in quality and quantity of wealth output. Capital by itself, as a factor, cannot produce more wealth. It can only do so when applied by labour to the products or raw materials of land. Capital, used efficiently by labour and land, can make labour produce more effectively and efficiently. It can multiply output and often reduce the strain and effort of labour. Capital invested in land, by the supplying of manures, fertilizers, irrigation and water supply, can add to the fertility and production of land. Let us put this in general terms. The wealthier a country is in the supply of tools and up-to-date machinery, the more wealth labour can produce. The more wealth in the form of manures, lime, fertilizers that the farmer sinks or invests in the land, the higher will be his return in the form of better crops, harvests, cattle and stock on his farm. The more efficient and up-to-date the fishing tackle provided for the fisherman in his trawler or deep-sea fishing vessels, the more will be his harvest in the form of fish from the sea. You remember, of course, that economists consider the sea as part of the factor land.

How is Capital Accumulated ?

Capital, we have seen already, is saved by putting aside wealth so that it can be utilized at a later period to help labour to be more productive. When a farmer decides to set aside from his harvest this year so much wheat to provide seeds for next year, he is accumulating or saving capital. He could consume the wheat, instead of saving it, by giving the wheat to his horses or cattle as feed. The seed that he sets aside is his capital.

A manufacturer, such as Wedgwood the potter, could have spent in travel some of the profits that he made from selling his vases or as charity to be utilized on the spot by needy inhabitants of the Potteries. Instead, we find that Wedgwood set aside a good deal of his wealth to improve the factory and its equipment at Etruria. In particular, he improved the transport facilities to his factory, in the form of the Trent and Mersey Canal and good turnpike roads. Early economic writers called this saving abstinence, and they would praise Wedgwood for abstaining from consuming wealth, so as to provide capital for his business as a potter.

Modern industry requires so much capital today that no single person can provide the amount of capital required by a single industry. So capital is collected from many people, by the issue of shares or debentures.

EXERCISE FOR PRACTICE

This exercise is based on the information given in the above lesson.

In what way is there a close relationship between the three economic factors, land, labour, and capital? Illustrate with examples of any industry you have seen in (a) a village in the heart of the country, (b) a seaside place or (c) a large city.

LESSON SIX**ORGANIZATION OF INDUSTRY**

WE have seen how the economic factors, land and labour, produced an offspring called capital, which consisted of wealth devoted to the further production of wealth. But, as industry develops on this triple foundation, it throws up another special factor, which has been given various names by economists, including enterprise. Entrepreneur is the term used by French economists which cannot be translated into English because the word undertaker in English has been confined by usage to the organizer or undertaker of funerals.

The three primary factors have become so complex and closely intertwined in modern industry that the fourth factor has emerged to organize, supervise, control and to plan the other three factors.

Let us try to represent in a simple sketch (Fig. 11) the relation of the three factors explained in earlier lessons, to this fourth factor—the organization of industry. This is the term we prefer to use, rather than enterprise or entrepreneur.

The function of the fourth factor, organization of industry, is to co-ordinate the effects of land, labour and capital in the harmonious production of wealth. When industry was run on a small scale, before the Industrial

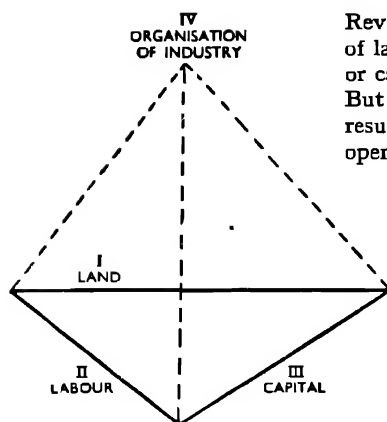


Fig. 11. *Diagram showing the co-ordinating rôle of Organization in relation to Land, Labour and Capital.*

Revolution, then labour could plan its unit of land and its use of tools and implements or capital required to make labour efficient. But the changes of the Industrial Revolution resulted in the expansion of the scale of operation and in the separation of labour from direct contact with work on the land. These changes further separated labour from the ownership of tools because of their replacement by large machines, often driven by costly power, involving the expenditure of large capital sums.

Such huge sums, in the form of finance capital, were required to launch this mechanized industry that someone, besides the person who owned the land or supplied the labour or who even owned capital, was required to assemble the three factors in the required and appropriate proportions.

The hiring of the units of land was called renting it from the owner or owners. The hiring of labour was called employing it and the securing of capital was called loaning or raising capital at a specified rate of interest. This employer of all three factors of land, labour and capital is actually referred to as an employer of industry. Because he undertakes the whole risk of the business, he is called an undertaker of risk or, to use the French word, entrepreneur, the person in charge of the industrial enterprise or concern.

What Organization of Industry Involves

The efficient and economic use of the three prime factors, land, labour and capital, however small the unit is, requires a certain amount of planning, forethought or organizing. But as the unit expands, and we leave the field of the small craftsman in his own small workshop and plot of land, to study the large scale operation of a big industrial concern, then we see at once the intricate organization of industry.

The form of organization of industry or economic enterprise varies according to size and type. We find organization of industry of two main types—private and public (Fig. 12).

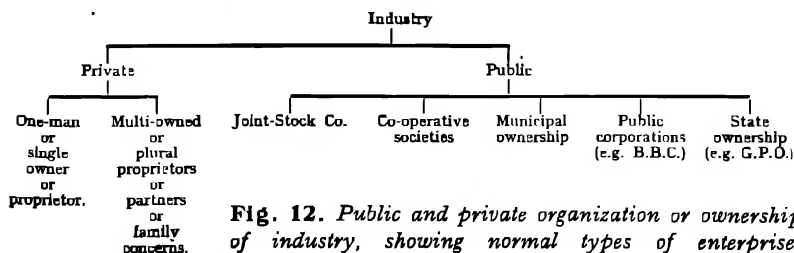


Fig. 12. *Public and private organization or ownership of industry, showing normal types of enterprise.*

Private and Public Ownership of Industry

Private owners generally supply their own capital and thus secure control and direction of their business. If the private owner cannot raise the money to provide all the capital, he tries to raise the necessary finance from some other owner, whom he makes a partner in the business. Sometimes the owner may secure some help on certain terms from banks, by arranging an overdraft or a short term loan.

The financing of public owned industry comes from the outside public in diverse ways.

Most businesses of this type today are limited liability companies. The principle of limited liability is that the amount any person can lose in a concern is limited to the amount that he invests as capital in the concern. As many contribute to the capital, each person is called a "shareholder."

From the study of the prospectus of a joint stock company (obtainable occasionally at chief branches of banks) you will note that persons subscribing capital to a joint stock company are of three types, namely: preference shareholders; ordinary shareholders; deferred shareholders.

In addition there are debenture holders who get a fixed rate of interest, because they have lent money to the company and their loan is secured by the value of the land, buildings and sometimes even by the machinery.

Functions of the Entrepreneur

Let us study the entrepreneur or organizer of industry at work. The proprietor of a concern in a one-man business does the directing, organizing, planning and co-ordinating himself. In addition he executes the plan himself at his small workshop, and he attends to all its details.

In the case of the public joint stock company the proprietors or shareholders, being many, cannot direct the concern themselves. They have to delegate the direction of the concern to an elected chairman or director of the company. He in turn has the assistance of many fellow-directors. In U.S.A. the chairman or chief presiding director is called a president and his deputy a vice-president, while the others are called executives and not directors.

The directors of a company are responsible for the main policy of the concern. They decide what land to rent or purchase, what amounts to spend as capital on machinery, raw materials, or patents. They decide whether more labour shall be employed on the plant or whether more machinery shall be introduced as labour-saving devices. The directors will decide such measures of major policy as the extension of markets at home and abroad for their finished articles and commodities. They, as representatives of the shareholders, will decide the amount of profits to be distributed and how much is to be placed to reserve. If additional capital has to be raised, the directors will decide how to obtain it.

The detailed execution of this policy will be left by the board of directors to another branch of industrial organization, called management.

Management of Industry

The management accept from the directors the policy decided upon, but the board of directors in their deliberations are guided by the advice of and special memoranda prepared by the general manager and his assistants.

Fig. 13. *Chart showing the organization of a typical large business enterprise.*

Directive	A	Shareholders of all types—owners or lenders of capital
	B	Directors—elected by A
	C	Chairman of directors elected by B
Administrative	D	Managing director often C as well
	E	General manager—selected by A or B
	F	Manager—selected by C, D or E
Executive	G	Assistant manager—selected by E or F
	H	Departmental manager—selected by F or G
Operative	I	Foremen—selected by H to superintend J
	J	Workers using capital—tools, machines, materials, etc.

Sometimes the chairman of the directors or some other director is appointed as managing director to form the liaison or link between the directorate and the management of the business concern.

Fig. 13 shows in chart form the various stages of management.

This table from A to J is an example of division of labour. In many cases the personnel required for the management of industry are drafted from the ranks of labour. Many workers in the ranks of labour, by studying in the evenings, have become foremen, under-managers, managers, and later general managers.

Just as workers in the ranks of labour are referred to as pit-hands in a colliery or factory-hands in textile factories, often the personnel forming the group I to D or C are referred to as the business brains. There can be no doubt that great industrial concerns need quick and clear brains to keep them going.

Many large commercial undertakings employ research and scientific workers to assist them in the industrial development of the concern. With the increasing application of science to industry, a more intelligent type of personnel is required on the management side of organization and a more educated type of director is required to supervise and control the concern.

EXERCISE FOR PRACTICE

This exercise is based on the information given in the above lesson.

Why do you think there has been a tendency for business concerns to grow larger? What effect has this increase in the organization of industry had on (a) the management; (b) the workers; (c) the employers; (d) the training and recruitment of personnel; (e) the type of commodity produced by large concerns?

NATIONAL WEALTH AND INCOME

So far we have been stressing economic organization, processes, personnel and products. These industrial units we have hitherto considered as individual and local concerns distributed throughout the areas where such industries are found. In this lesson we want to consider the problem from the national angle, to find out what is meant by national wealth and income.

We have already stated in an early lesson what we mean by wealth in general. If we could have a census of all the things we defined as wealth in any particular nation at a particular date, then we could say that the total list would be its national wealth. Such a list in fact has never been compiled for any nation, nor is it ever likely to be compiled. Though difficult to list or measure quantitatively or qualitatively, we do know that such national wealth in the form of real goods does exist in every country.

National wealth embraces the raw materials included in, on, or under the land, as an economic factor utilized in the production of wealth. National wealth must include also all the buildings, structures, factories, docks, warehouses, workshops, hotels, shops, railways, canals, ports, harbours, lighthouses, banks, etc. All these forms of wealth are called fixed capital. But, in addition to all these items included in land and fixed capital, we must include the products resulting from the use of land and fixed capital through the efforts of labour. These are the raw materials of industry converted into stocks of finished articles or commodities. They are what we called circulating capital.

The stock of this national wealth is not fixed or permanent. It varies from day to day, from hour to hour. So varied is it, so changeable is its quantity and quality—for some of it is perishable—that economists refer to this national wealth not as a stock but as a *flow* or *stream* of wealth. The quantity of such national wealth of commodities produced is very difficult to measure for two reasons. The flow of goods (if we may use the term flow for the hourly, daily, weekly and monthly outputs from small workshops, manufactories, factories, pits, quarries, farms and other productive units) varies from commodity to commodity, from productive unit to unit, from period to period. It is difficult to estimate the quantity at any particular moment. We can only measure the quantity of commodities produced over a certain period in one or a few units. It would be difficult to get a complete census of all units. The unit of measurement is a varying one. Some commodities would be weighed in ounces or in tons, others would be measured according to their cubic content.

Even if you could count exactly by weight all the output of coal in all pits, collieries, levels and slants, as well as outcrops, even the quantitative mass would convey little useful information without reference to the differences in quality and kind. If this is true of coal how much more difficult it is to measure the output of commodities that vary much more in quality and texture than coal.

So this method of assessing quantitatively and qualitatively the national real wealth is very difficult and well-nigh impossible to achieve, despite

valiant attempts by certain states to institute periodical censuses of production. These censuses of production often cover only a few selected industries, at a particular date that ignores seasonal variations

Still, despite the practical difficulty of reducing national real wealth to tabular or statistical form, economists do think of national wealth as something tangible and quantitative. We can express in a diagram, such as Fig. 14, what is included in this conception of national wealth :

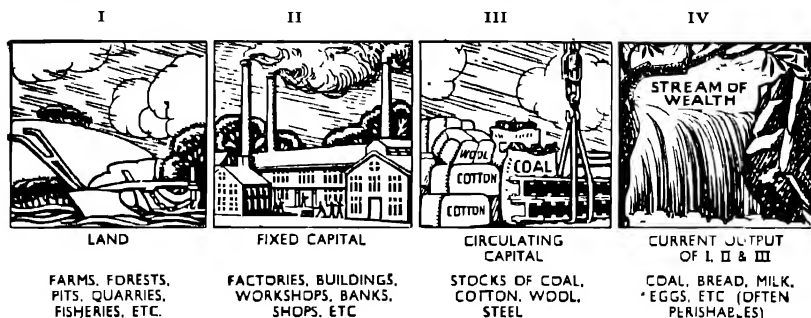


Fig. 14. A pictorial representation of the component parts of national wealth.

If it were possible to add all the above together, $I + II + III + IV = \text{Total national real wealth}$. The total national wealth of any country is the sum total of all land in use, all capital, fixed and circulating, as well as current output of all productive units.

Putting this in a formula, we could express total national wealth as

$$\begin{aligned} \text{T.N.W.} &= \text{Land} + \text{Capital} + \text{Stock (of Goods)} + (\text{Current}) \text{ Output.} \\ \text{T.N.W.} &= L + C + S + O \end{aligned}$$

In the above formula $L + C + S$ form a *fund* of tangible properties, while the current output O is a *flow*.

This conception of national wealth, as consisting of a *fund* or "frozen" quantity and a *flow* or "fluid" quantity is worth remembering.

National Wealth Estimated in Money

Economists have managed to assess the total value or worth of the national wealth in terms of money. Just as one can grasp the size of a man's chest by putting round it a tape marked out in inches, so economists have put, as it were, a price tape across lands, fixed capital, circulating capital and factory products. All the national wealth is placed in a cash balance and the answer given in a grand total sum, expressed in £ s. d. in Great Britain or in \$ in U.S.A.

Even this monetary method of measuring national wealth has its peculiar difficulties. Money is not a fixed unit. Its value varies from time to time. Prices of articles go up and down according to the variations of demand and supply, so that even estimates of national wealth, expressed in terms of money, have to be carefully watched. In the end these are but tentative estimates and often guesses, rather than exact measurements

Two Methods of Estimating National Wealth

The Objective Method. Economists estimate the pecuniary value of all lands, farms, forests, factories, stocks, and products, and they add up all the various sums to form a grand total.

This method has been pursued by economists in the United Kingdom since 1865 as the following table shows (Fig. 15):

<i>Date</i>	<i>Authority</i>	<i>Million £</i>
1865	Giffen	6,113
1875	"	8,548
1885	"	10,037
1895	<i>Economist</i>	10,663
1902	Chiozza Money	11,413
1905	Hirst	13,036
1909	"	13,986

Fig. 15. *Estimated national wealth of the United Kingdom.*

The Personal or Indirect Method. Sir Robert Giffen started with the individual owner of wealth and attempted to ascertain the amount of wealth possessed, either on the basis of taxes paid or on the basis of death-duty statistics published since 1851. In this method the taxes or death duties paid are called the multiplicand. The multiplicand is then multiplied by a multiplier. If the multiplicand is M and the multiplier m then the national wealth = $M \times m = Mm$. The economists have to find out a suitable figure to multiply the income tax amount of the individual. Thus they capitalize his income and reach an estimate of total wealth. The multiplicand for different types of property varies with different economists. So one can see that such estimates must be only approximate and must be checked with the direct or objective method.

The total national income is the sum total of all the incomes of individuals assessed. Just as we made a distinction between *real* national wealth and *monetary* wealth, so also we can distinguish between *real* income, which is really a net flow of goods and services used by an individual in a year, and *money income*, which is the money payment made for such goods and services. There is obviously a gap between the real and the monetary incomes because some unpaid services (like that of mothers in our homes) are *not* counted as *real incomes* and have no monetary expression in the total of money national incomes.

The late Lord Stamp and Professor A. L. Bowley estimated the aggregate money income for Great Britain in 1911 and 1924. Since 1924, Colin Clark has made estimates of the national income, or as it is sometimes called the national dividend.

But excellent as these individual estimates of the national income are,

they are hardly comparable because of the different data or statistical methods used by each statistician. In fact, Colin Clark, in his 1937 book on *National Income and Outlay*, modifies considerably the estimates given in his earlier book (1932) on *The National Income 1924-31*. He was quite right to amend his estimates in the light of data discovered in the intervening years.

These varying individual estimates are not only confusing to the student ; they are also very embarrassing to the Chancellor of the Exchequer, who requires reliable estimates of the national income in framing his Budget. But the Government has greater access to income statistics than have private individuals, and since 1941 has published official estimates. Reproduced in Fig. 16 are the estimates presented to Parliament by the Financial Secretary to the Treasury in April 1944 in the White Paper Cmd. 6520. In line B the figures of line A are expressed as index numbers, 1938 being the basic year.

	Year	1938	1939	1940	1941	1942	1943
A	Total net national income (£ million)	4,604	4,968	5,945	6,865	7,604	8,172
B	Index number :	100	108	129	150	165	177

Fig. 16. Official estimates of the net national income for the years 1938-1943.

EXERCISE FOR PRACTICE

This exercise is based on the information given in the above lesson.

Why is it difficult to estimate (a) The national wealth and (b) The national income ?

LESSON EIGHT

VALUE

WE have already seen how economists have tried to measure national wealth and income in terms of money. In so doing they have tried to value national wealth and income.

In this lesson, we must probe the meaning of the economic process of valuing goods or services and seek to define, as clearly as we can, what is meant in economics by the term value.

Economists have argued more over the meaning of the term value than about any other word used in industry or business. In this lesson we must clear our minds about the essentials of value.

Some Alternative Words for "Value"

If someone asked you "What is the value of your fountain pen ?" various words would come into your mind, such as the following.

1. *Use.* This refers to the utility of the fountain pen, as a convenient instrument to write letters. Some people have suggested that for utility we should use the phrase value-in-use. Although the utility attached to

the fountain pen is at the back of your mind in assessing or estimating the price that you are prepared to pay for it, utility and value are not exactly equal in meaning, unless we add the two little words "in use" to qualify value. If the fountain pen has a nib that scratches, or a barrel that leaks, then it has no utility, no value-in-use. Sometimes this is expressed by stating that in those circumstances the fountain pen possess no *intrinsic value*. It is value-less, or use-less.

2. *Worth, price and sum of money.* Note now that in estimating the value of the fountain pen, by using these three terms, you are weighing the fountain pen, as it were, in a balance against something else.

If it is a good fountain pen that serves you well, you might say: "That fountain pen is worth its weight in gold." To estimate the worth of your fountain pen, notice how you have tried to express it in terms of some other commodity—gold.

You do the same when you think of the price as expressing the worth or value of your fountain pen. It is worth or equal to so many pence, shillings, or pounds.

In this process of valuing your fountain pen you have done so, not *intrinsically* as in No. 1, but *relatively* or in relation to some other thing or things. You have set what is called an objective-value on your fountain pen. This value could be called value-in-exchange, or to use a simpler term, market value. This is illustrated in Fig. 17.

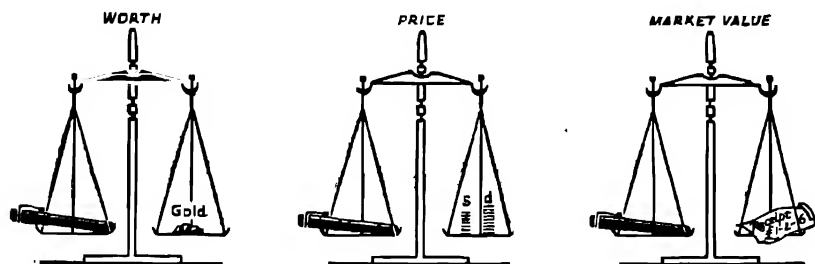


Fig. 17. Diagrams illustrating value-in-exchange, or relative value.

3. *Appreciation and estimation.* These words denote your sentimental feeling in considering your fountain pen as a much appreciated gift or your esteem for the fountain pen as a friendly tool or implement, helping you to express your thoughts. You think fondly of your pen as you finger it. In other words you value it, subjectively, highly, as one of your personal treasures. These meanings can be attached to value, but these are not the meanings which have been interpreted by economists.

Market Value or Value-in-the-Market

In business or industry today the term value is used as synonymous with price or value, expressed as a sum of money. Thus price is the monetary value of any particular commodity in the market, where the commodity is being offered by a seller to a buyer or buyers

Price and Value

Now let us try to explain the mystery of value through relating it to price. In fact, for practical purposes it is usual to think of the price of a commodity when reference is made in economics to the value of a commodity.

Imagine for one moment that value is one of the hardest nuts to crack in economics, and that you want to reach the inner kernel or core of this economic nut, value (Fig. 18).

The outer shell of the nut is price (1), for to the buyer, the outward label or sign of value is its price. The price is an outer wrapper that will reveal its value.

If you go beneath the value (2) in the sketch you will reach (wrapped inside the value) the utility (3) of the article. If it rained fountain pens instead of drops of rain very little value would be attached to rained fountain pens. So beneath the wrapping utility (3) there must

be the idea of scarcity (4) attached to the articles. They must be difficult to obtain. Beneath the scarcity (4), you reach the pith or inner kernel of value, the labour embodied in the article.

This cracking of the economic nut, value, as exemplified in this sketch, probably recalls to your mind that we noted earlier that wealth meant goods—commodities possessing goodness or to use our new term utility. In terms of value, wealth can be defined as goods possessing value.

We have reminded you that buyers and sellers meet in a market and goods exchange hands, buyers parting with money and sellers parting with their commodities or products; all the buyers' wanting to purchase goods form what economists call the *demand*, while all sellers of a commodity form the *supply*.

The value (or price) of a commodity at any particular time or in any particular place depends on demand and on supply. This is called the law of supply and demand.

The following table summarizes how the law of supply and demand operates on or determines the value or price of goods (Fig. 19).

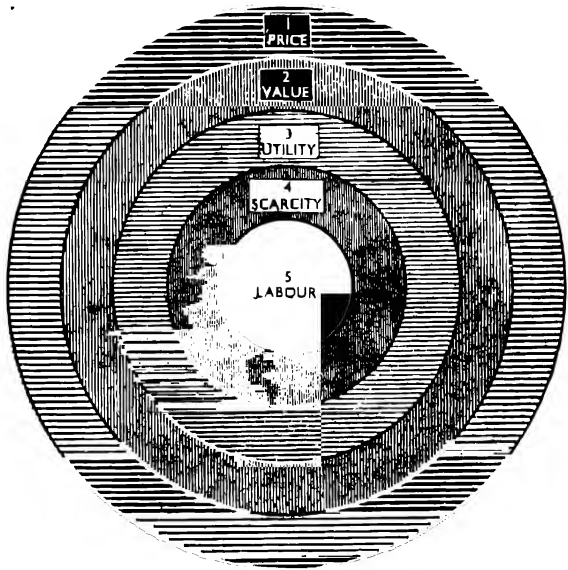


Fig. 18. Diagram showing the underlying factors of price and value, applicable to all commodities.

<i>Price</i>	<i>When</i>	<i>Why</i>
Falls	Supply exceeds demand	Sellers compete to sell
Steady	Supply equals demand	Sellers in equilibrium with buyers
Rises	Demand exceeds supply	Buyers compete to buy

Fig. 19. *The principles of the Law of Supply and Demand and how they operate.*

Law of Supply and Competition

Note in the third column of the above table that we state sellers *compete* with sellers, and buyers *compete* with buyers, and there is *competition* between all the sellers on the one hand and all the buyers in the market on the other. This free competition is assumed by economists to be the normal condition of industry and commerce, in discussing the operation of the law of supply and demand. In actual practice, however, the law of supply and demand is not always allowed to operate in a market. Why? Because producers or middlemen as sellers combine to control prices and supplies of commodities. This combination of producers or sellers aims at creating a monopoly.

Monopoly in Relation to Prices

Monopoly comes from two Greek words—*monos* meaning alone, and *poleo*, to sell. A monopoly tries to secure that the sale of a commodity is solely in the hands of one company. There are numerous commodities, large and small produced by firms which have almost a monopoly in the goods in which they specialize. These firms, because of their strong position in the production and marketing of such goods, are able to control the selling price to their own advantage. This makes it difficult for smaller competitors to hold their own in the market. On the other hand, it is frequently the case that wages and working conditions of employees in the larger firms are more favourable.

Firms with such monopolies are in a position to fix prices higher than the market price fixed by what Adam Smith called the higgling of the market—a description of the competitive action of the law of supply and demand.

A monopolist never attempts to fix the monopoly price too high, for that would mean that the price would defeat its object, the ultimate sale of goods, for there is a point beyond which customers or consumers cannot or will not purchase. In other words demand determines the maximum price the customers will pay.

But a monopolist can regulate conditions of supply so as to eliminate

competitors. He can concentrate production in the best-equipped factories working at full capacity, and obtain the full benefits of a large-scale organization. He can produce standard products, and he can cut down competitive waste in advertising and commercial sales.

The monopolist can be defeated if consumers can secure substitutes for the article for which he holds a monopoly. If consumers cannot secure substitutes, they may even bring pressure to bear on the Government to interfere with the monopolist and his alleged exploitation of the public.

So you can see that a monopoly price is not necessarily a very high price, though it might often be higher than the free competitive market price. Sometimes monopolists, because they can charge a higher price in some regions, can discriminate in respect of different markets and fix different prices. Sometimes monopolists fix one price for the sale of goods at home and a lower price for goods exported. This latter process is called dumping goods. This was a favourite method resorted to, on a large scale, by German manufacturers to capture foreign markets.

Types of Monopolies

The foregoing kind of monopoly can be described as commercial or industrial monopoly. But there are other types.

Legal monopoly—like the B.B.C., which is a corporation having the sole rights to broadcast in Great Britain and Northern Ireland.

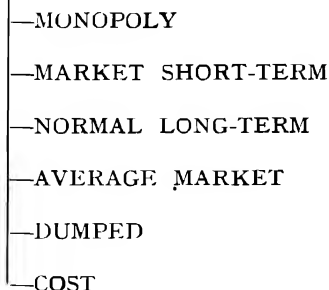
Social monopoly—certain public services like the gas, electricity, water, and transport services.

These two types of monopolies are not often anti-social in their price policy, because they are open to the pressure of public opinion, through appeal to Parliament or the City or Borough Council.

Natural monopoly—by which is meant a natural limitation of the supplies of raw material—may lead to exploitation by industrial monopolists, e.g. Chile nitrate, kaolin and iron ore in Sweden.

In this lesson we have referred to several types of prices. For convenience in comparison we have set them out in the sketch below in order of ascendancy.

PRICE



Although the various prices arranged in this scale are depicted as separate, in practice they are often approximate. A monopoly price may be fixed near a short-term market price. A short-term price may approximate to the long-term normal price, while both may fluctuate around an average price. The dumped price may be near the cost price or even below it, if the monopoly price charged in another market for the same commodity is high enough to cover the loss for sales at this below-cost-dumped-price.

Fig. 20. The various levels of price.

EXERCISES FOR PRACTICE

These exercises are based on the information given in the above lesson.

1. Describe the various kinds of monopolies. Defend and attack them, if possible.
2. What other words would you use to describe value? Explain why.
3. What is the difference between value-in-use and value-in-exchange; between retail price and wholesale price? What has the law of supply and demand to do with prices?

LESSON NINE

RENT OF LAND

IN this lesson we are entering on the analysis of what economists call distribution. Distribution in economics does not refer to material distribution or transfer of products or commodities. Distribution, in the sense we use it in this and the next two lessons, is closely allied to the subject of our previous lesson—the question of valuing services rendered to industry by the factors of production. All these factors are owned by persons called agents. The value contributed by each factor is assessed at a certain figure or price, which is paid to each agent. This payment is a reward for the use of the factor by its owner. Let us put this in tabular form:

	<i>Factor</i>	<i>Land</i>	<i>Labour</i>	<i>Capital</i>	<i>Enterprise</i>
PRODUCTION	Agent	Landowner	Workers	Shareholders	Individual proprietor, Company, Society, Municipality or State
DISTRIBUTION	Payment	Rent	Wages	Interest	Profits

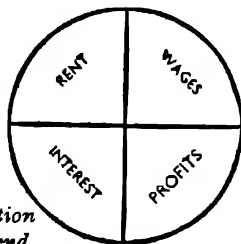
Economists give to the sum total distributed the term national dividend. This can be written as a formula: $N.D. = R + W + I + P$

Distribution of National Dividend

The national dividend is a term economists apply to the total value of all the products of industry. The value of all products is distributed in the form of rent (R), wages (W), interest (I) and profits (P). In this sense, the national dividend equals the total of national incomes (Fig. 21).

Before we explain the meaning attached by eco-

Fig. 21. *Distribution of national dividend.*



nomists to the term rent, let us distinguish between economic rent and the popular use of rent, which covers house rent and, in special cases, royalty.

House rent, sometimes called urban rent, really includes economic rent, due to site or situation, and interest due to the capital sunk in building. But because this capital has become fixed in the land, the tendency has been to treat both the interest and economic rent as forming one payment.

In connexion with collieries, there is a special kind of rent paid. It is called a royalty. It is composed of two elements. There is a dead rent roughly equivalent to the economic rent charged in agriculture. But because the coal or ore is extracted from the mine and can never be replaced, this calls for compensation for wastage. The two charges are called a royalty.

The rent which we are discussing in this lesson will not be house rent or mine royalty, but rent for agricultural and other land.

What Determines Rent

Rents vary according to the fertility of the soil and situation or accessibility to market. The difference in fertility of plots of land that may even be adjacent to one another is illustrated in Fig. 22. Because the output of plot D yields no surplus, but only just covers the cost of production, it is referred to as land on the margin of cultivation or marginal land. The

next plot E is below the margin, because its output does not cover the cost of production.

E would thus be termed sub-marginal land.

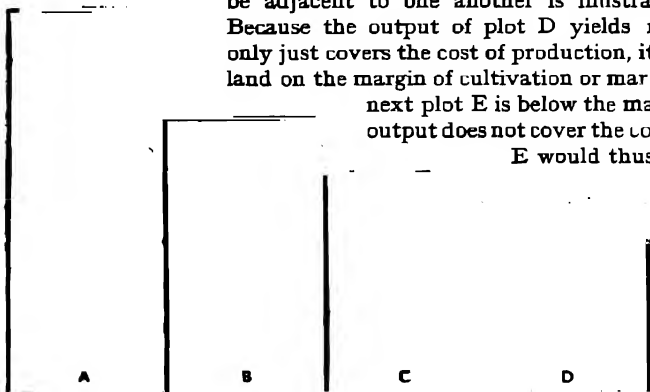
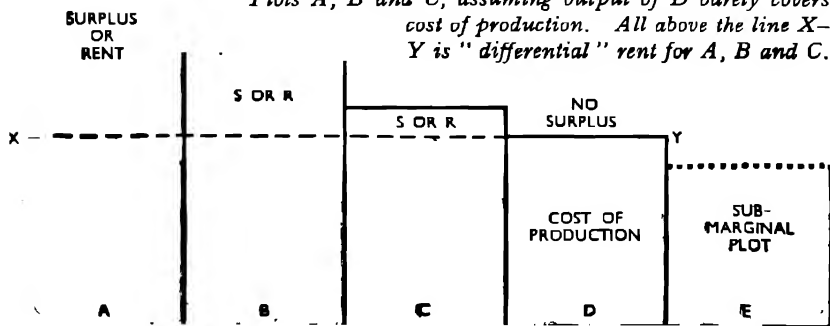


Fig. 22. Above : Differing fertility of land represented by Plots A, B, C and D. Below : Differing surplus of Plots A, B and C, assuming output of D barely covers cost of production. All above the line X-Y is "differential" rent for A, B and C.



What we have been explaining about rent, as the differential surplus from land, is referred to as the Ricardian theory of rent, after David Ricardo, its first formulator. Ricardo stressed the fertility of the soil as the chief element in deciding output and consequently the surplus of the land on, over or under the margin of cultivation. Since Ricardo's day another factor has to be considered—accessibility to market, situation or site of the land. There are many factors that affect situation—e.g. transport and population. The application of science and mechanization to land treatment affects fertility. All these factors tend to affect the rise or fall of rents.

In many cases fertility does not enter into the question of rent of land, especially if required for non-agricultural purposes, e.g. for sport. The rent then charged takes the character, not of a differential rent above the cost of production, but of a scarcity rent, charging what the market will bear.

Many economists have applied the term unearned increment to rent from land, because the productivity or output of the land does not depend on the amount of the rent paid. On the contrary, the amount of rent depends upon the relative productivity or output of various kinds of land. This unearned increment element in rent has had its repercussions on the rewards to other factors than land.

Pure Rent and Quasi-Rent

Since the days of Marshall, economists have used Ricardo's theory of rent to explain many unearned features of rewards paid to other factors than land. This unearned element in wages, interest and profits has been called *quasi-rent*, to distinguish it from pure rent paid for the hire of land.

A few examples will make clear this term quasi-rent.

If instead of fertility you substitute ability, just as rent is rent of fertility of land well above the margin of cultivation, so is the high wage earned by some workers with special deftness of hand or skill of eye or muscle and strength. In wages can be detected an element of scarcity-rent, because of the scarcity of skilled labour. The increased wage does *not* induce the skilled worker to produce more or to work harder. The skilled workers are only taking advantage of their scarcity.

Professor Clay gives the high fees charged by Harley Street doctors and surgeons as examples of quasi-rent. Other examples that occur to us are the high wages, fees, salaries or remuneration given to many theatrical artists and film stars.

Invested capital has different levels of productivity, independent of the rate of interest paid for the capital. In certain health resorts the hotels may make great profits, because in the resorts there is no room to put up new hotels to share in the prosperity.

Where the supply of land or natural resources is fixed and limited, the theory of rent analysed in this lesson is one that operates in the "long run." On the other hand the application of the quasi-rent to wages, interest and profits operates in the short-run period, because, if given time, new workers can be trained and new capital provided and new businesses and enterprises started.

Monopolies endeavour to convert this short-run quasi-rent character of profits into a long-run differential surplus.

In the lesson on national income we pointed out that a good deal of the data concerning rent, wages, interest and profits was derived from Inland Revenue Blue Books. Now we can state that the application of Ricardo's theory of rent to wages, interest and profits has led to a new approach to the problem of distribution. Some of the payments made to wages, interest and profits do not affect the output of the agents of production. The output of each of these agents, labour, capital and enterprise, is unaffected by the amount of payment of this rent of ability or unearned increment.

The taxing of unearned increment has been a fruitful source of taxable State income. The followers of the American economist, Henry George, who wrote *Progress and Poverty*, argue that there should be a simple tax on the rent of land. Among the many arguments they produce are that rents are payments :

(1) for productive power, which is not due to the efforts or sacrifices of the rent receiver or landlord ;

(2) for hire of land, which has not been the creation of any individual and should not be the property of any individual, but rather should belong to the community.

Other social reformers than single-taxers have urged the taxation of unearned incomes of all kinds received by land, labour, capital, and enterprise.

Distribution of Rewards or Payments

The general problem of distribution is worth analysing a little further, before we deal specifically with wages, interest and profits.

Hugh Dalton, in his book *The Inequality of Incomes*, stresses the inequality in the totals allocated as rewards to the two types of factors. This is reproduced below :

TABLE OF DISTRIBUTION

Country	Income allocated	
	To property	To personal service
	<i>For mere ownership of land and capital</i>	<i>Working for wages, salaries, fees</i>
UNITED KINGDOM	36	64
UNITED STATES	29	71
FRANCE	39	61
AVERAGE	34½	65½

Although on the average, the incomes from personal service are double the number claimed on property, this double amount is shared by infinitely more than double the number of agents entitled to the respective incomes.

This is corroborated by the figures for 1938 :

<i>Incomes</i>	<i>Per cent of incomes</i>	<i>Per cent of total sum of income-owners</i>
I Incomes under £250	90	55
II Incomes between £250 and £2,000	9½	29
III Incomes over £2,000	½	16

An American economist, Professor David Friday, has analysed the share of incomes to agents in the form of rent, interest and profits as follows :

	<i>Factor</i>	<i>Share of income</i>	<i>Per cent</i>
I	Land	Rent	8
II	Capital	Interest	8
III	Enterprise	Profits	28
IV	Labour	Wages, Salaries	56
			100

This analysis, though not quite parallel in detail with the other British surveys, corroborates in general the disparity or inequalities of the shares.

Not only is there an inequality as to the proportions between I and III and II and III and I and IV, but there is also great inequality between the various groups and individuals within each factor. This will become clearer as we develop the last two lessons.

This inequality in the relative shares of the rewards allocated to the respective owners or agents of the four factors, together with the inequality within the groups, constitutes the real problem of distribution. It underlies nearly all the controversies concerning the industrial and economic system. It is true that many an individual receives income from more than one factor,

but even that does not balance the inequality that is the chief characteristic of distribution.

Many plead that only a redistribution of incomes can rectify this unequal distribution. Taxation, inspired by reformers believing in the rent and quasi-rent absorption by the State, is in operation in Britain. This taxation of the surplus is often the State's direct reply to monopolies. In U.S.S.R. the question of redistribution has been more drastically dealt with by the Soviet nationalizing of all land and thus socializing rent and nationalizing capital. The Soviet still pays interest for capital and loans borrowed from the savings of its Soviet wage and salary earners.

EXERCISES FOR PRACTICE

These exercises are based on the information given in the above lesson.

1. Distinguish between the uses of the following terms : (a) rent ; (b) urban rent ; (c) scarcity rent ; (d) royalty ; (e) quasi-rent ; (f) national dividend.
2. Give your own explanation of inequality of incomes from industry.

LESSON TEN

WAGES—METHODS OF PAYMENT

WE are pursuing our study of distribution commenced in the previous lesson on rent. In this lesson our subject is wages.

In the Bible there is a quotation that "the labourer is worthy of his hire." In modern parlance we would replace "hire" by "wages." In many rural districts to this day there are still "hiring-fairs," where farmers make mutual contracts or pledges with their labourers and dairyhands, these workers undertaking to give service for a year for so much hire or wages. The contracted period of hire in most industries, however, is daily, weekly, monthly or quarterly, and not the long-period annual hire of earlier days.

Indeed, so quick is the labour turnover in certain American factories, where workers are taken on in the morning and perhaps dismissed by a dissatisfied foreman before midday, that in the U.S.A. some wage contracts are on the "hire-and-fire-on-the-spot" basis.

But in the U.S.A. as well as in Britain the greater proportion of wage-earners is under contract. In other words, they are employed under an agreement, often under an individual legal agreement, and if an employee wishes to end his employment, or if his employer desires to dismiss him, a notice must be tendered to terminate the engagement.

When we were dealing with labour earlier we drew attention to the time element required to enable labour to function. Probably because of this close connexion arises the linking of the payment of wages on a time basis. In many industries, a large number of wage earners is engaged on an hourly, daily, weekly, or monthly basis at so much an hour or so much per week. This is particularly true of two grades of employees. Most employees classed as unskilled labour are day-wage-earners, or paid per week, on a time basis. Then, on the other hand, many employees in the higher grades doing skilled work of a clerical or administrative character are paid on a time basis

per week or more often per month or even every three months. Then, more often than not, their wage is called a salary. Those engaged in the professions, like teachers, architects and others, classed often as black-coated workers, are paid their wages or hire-for-labour as salaries.

Wages as a term is applied to the reward of labour by hand or manual labour, while salary is applied to the reward or payment on a time basis for mental labour or brain work.

Every worker engaged or employed is expected by his employer to produce goods or contribute services that will result in output. Where this output can be measured by weight, as in the case of coal, or in length, as in the case of textiles, we find contracts between employer and employed to pay wages on piece-rates. The collier gets so much per ton for coal cut and put in the tram. The cotton weaver gets so much per yard for cloth produced.

This payment of wages on a piece-rate basis is very complicated and intricate. It varies for every industry. In many collieries there is a separate price-list for different seams of coal. The bargaining for these piece-wage-rates is one of the chief functions of trade union organizations that have developed since the beginning of the 19th century in all our main industries. The more industry is mechanized in its processes, the more is output capable of being measured quantitatively, and the more is the tendency to pay skilled labour or machine operators and skilled hands on a piece-rate basis. The more the operators produce, the more they earn. Piece-rates are a decided incentive to increasing output and the total amount of wages an employee can earn. On the other hand, there is a danger in piece-rates leading to the employee overstraining himself or herself, in the effort to push up output and thus increase the contents of the wage packet.

Employers, however, will testify that with all its drawbacks, they prefer the piece method of wage payment to the time, day wage system, for two reasons :

1. A day wage often encourages slackness and low output, unless there are foremen employed to speed up production and prevent day-workers from slacking.
2. Only trusted officials and staff-members are likely to realize full responsibility, when on a time-wage or salary basis.

There are many ways in which the award of a bonus wage operates. But in general, there is in the agreement a fixed standard output in return for a guaranteed standard or minimum wage, and then for any output exceeding that minimum output there is a bonus added to the standard wage.

A variation and development of the bonus wage system of payment for labour is the system evolved under certain schemes of scientific management, where the worker is subject to tests of time-study and motion-study to arrive at a basic efficiency-rate of wages, as a minimum. Then when the output of the scientifically-managed labour exceeds a certain agreed figure, a premium bonus payment is added to the wage earned by the worker on the efficiency rate basis.

The above mentioned methods of wage payment are dependent for their operation on what happens inside the factory.

But some systems of wage payment link themselves not to internal factors but to events which occur outside the factory.

Price Sliding Scales of Wages

This system of wage payment was very popular once in the British coal-fields. The wage payment depended partly on piece-rates for output, but these piece-rates went up or down, according as the price of coal per ton went up or down in the export market. Such a sliding scale of wages was very popular when the price of the commodity was rising. But when it dropped or suddenly fluctuated it was not at all popular, as the miners could hardly adjust their standard of living and purchasing power to these sometimes violent changes of the sliding scale.

These price-sliding scales of wages were an attempt to give workers a share in the prosperity of the industry, on the assumption that high prices of the commodity sold reflected the prosperity of the industry. The price-sliding scales of wages have disappeared entirely from the coal industry, especially since the last decade of the last century. Price-sliding scales still persist, however, in some of the iron and steel trades.

Cost-of-Living Sliding Scales

Before we explain this kind of sliding wages scale, we must make clear the difference between *money or nominal wages* and *real wages*.

No worker really works for money wages. He and his wife and children or whoever else is dependent on a worker and his wages, cannot eat, drink or wear the contents of his wage packet, however big it is. The wages in the pay-packet are only of use to the worker and his dependants because the money can purchase necessities, comforts and luxuries of life. In other words, the nominal £ s. d. wages are only good inasmuch as they assist the worker to purchase real goods in the form of food, clothing, shelter, boots, and books. He expects to obtain these by purchasing them from shops, according to his conception of a standard of living.

In recent years, railwaymen and other transport workers and civil servants have linked changes in their wage rates with changes in what is called "the index number of the cost of living." This in Britain has been calculated by the Ministry of Labour officials, and based on five main groups of commodities purchased in a working-class family budget. These cover food, rent, clothing, fuel and light, and sundry items like soap, soda, tobacco, cigarettes and newspapers.

A basic year is chosen—generally the year of the wage agreement. Then, the index number of the average prices of all the above commodities is fixed, as 100. The subsequent changes are calculated for each month in the year or years following this basic year, and the average prices are set out in a table or a graph, as percentages in relation to the index number of the basic year.

The table in Fig. 23 sets out the fluctuations in the cost of living index number of the Ministry of Labour, as published on the first of January each year.

The index number remained at 199 for January 1944, but it rose to 202 for January 1945, and to 203 for January 1946.

In accordance with this table, the employees in the industries that accepted the linking of their wage increases with the cost of living figures had a certain agreed amount added to their weekly wages if time wage-earners or an agreed percentage increase to their rates according to a stipulated

1st Decade	Year	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923
	Index No.	100	115	135	165	190	220	225	285	192	178
2nd Decade	Year	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933
	Index No.	177	180	175	175	168	167	166	153	147	142
3rd Decade	Year	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943
	Index No.	142	143	147	151	159	155	174	186	200	199

Fig. 23. *Cost of Living Index Numbers of Ministry of Labour 1914-1943*

number of "points" increase in the cost of living index above the standard 100 figure of the basic year.

Cost of living index scales to regulate wages are popular when the index is a rising figure but unpopular on a falling index number. Many workers are suspicious of the cost of living index numbers. They challenge the experts as to the basis of the figures chosen to construct the index number. Different workers, in different industries and in different localities, have different expenditures. This is especially true of the difference between wage-earners and black-coated salary-earners. Also many workers know that prices of commodities can be increased artificially, by the operation of a purchase tax, or by changes in currency. Hence there is a good deal of suspicion about tying wages to cost of living scales.

Legal Minimum Wages

Some wages were so very low in certain trades that they were referred to as sweated trades.

The first Trade Boards Act of 1909 set up special boards in chairmaking, paper-box making, lace finishing and in ready-made and wholesale bespoke tailoring, to fix minimum rates. Prior to this Act of 1909 the wages paid to workers, mainly women, did not enable them to maintain a reasonable level of subsistence.

The Trade Boards Act of 1918 greatly extended the operation of the 1909 Act. Soon, over three million workers were covered by their trade boards. Certain industries have succeeded in establishing the principle of a minimum wage for all engaged in the industry. The State enforcement of a national minimum wage for all workers is still far from achievement in this country.

Profit Sharing for Workers

Profit sharing is a method of wage payment where the workers, in addition to receiving wages, have an agreement with the employer to receive a share, fixed in advance, of the profits of the undertaking.

Labour co-partnership is a modification or extension of profit sharing. Under co-partnership schemes the wage-earner or employee, in addition to his wages, participates in a share of the profits of his employing company as in co-partnership schemes, but with this difference. In labour co-partnership schemes the wage-earner, instead of spending his shared profits, can exchange his accumulated profits for a share, as a shareholder of the company. In this way, as a wage-earner he may exercise some measure of control in the shareholders' meetings and ultimately on the policy of the board of directors. In a few instances of labour co-partnership schemes, the workers collectively elect a representative of wage-earners to the board of directors. Despite the hundreds of such labour co-partnership schemes that have been initiated in Great Britain, more than half have ceased. Trade unions have never taken kindly to labour co-partnership or for that matter to profit sharing schemes.

EXERCISES FOR PRACTICE

These exercises are based on the information given in the above lesson.

1. If you were given the chance to work for a day or piece-rate wage, which would you choose and why ?
2. State the good and bad points of a bonus wage.
3. Why were various sliding scales introduced to improve wages ?

LESSON ELEVEN

INTEREST AND PROFITS

INTEREST is the price paid to the owner of capital for the loan of the capital invested in the concern. It is paid out at stipulated periods—quarterly, half-yearly or annually, according to the terms of the prospectus. It is customary to note that there are two types of interest :

Gross interest is the payment made (a) solely for the hire or use of capital ; (b) as a reward for risk ; (c) as an element of quasi-rent, explained in an earlier lesson.

Net interest is simply (a).

Interest is paid—whatever the differences in rates—because a loan of capital to a concern, or to an individual owner, confers a service. Those in need of a loan will be willing to pay the interest for the accommodation. Further, in an earlier lesson, we stressed how capital accumulated through saving. Man has to be induced to save and set aside a surplus.

As industry needs capital and this can be provided on loan from persons who have accumulated savings, on one condition—namely the price they require for such a loan. Interest must be paid.

What Determines the Rate of Interest ?

As interest is the price paid for the use of the factor capital, we can state that the law of supply and demand determines the rate of interest, as it does the price of any commodity.

The supply of capital depends on the power and the will to save. The rate of interest offered has a great influence on the accumulation of capital

in normal times ; though it is true that there are individuals who would save even if interest were non-existent.

As a price, the rate of interest is expressed as a percentage of the sum of capital invested. So interest is always quoted as 2 per cent, 5 per cent or 7 per cent as the case may be, according to the productivity of capital. As the capital loaned is generally a sum of money, the total amount of interest paid for the loan of the capital is a sum of money.

On the demand side for capital there are at least three factors :

1. The density of the population—its labour army.
2. The natural resources of the country—its land.
3. The stage of industrial and social development.

The demand for capital far exceeds its supply, hence the price or interest paid to those who are willing to lend capital. The *demand* for capital really represents a number of borrowers of capital, who will be prepared to pay the price, interest, for capital loaned.

Interest is a part of the cost of production, being the price paid by the producer for the loan of a factor of production, and, as such, interest like wages forms part of the cost of production. Owners of capital drawing interest need not of necessity give personal service at the factory or concern where they have loaned their capital, unless they are co-partners or profit-sharers, or unless they are personally present as entrepreneurs in the factory. This latter aspect we will deal with next.

Profits is the name given to the residual income to the last factor, enterprise. If T = total income from industry, R = Rent, W = Wages, I = Interest ; then the formula can be expressed as

$$T - (R + W + I) = \text{Profits } (P)$$

Put in another way, profits are the balance left in the hands of the entrepreneur after he has paid out all the expenses of production to all the other factors.

Because of the personal and intimate interest taken by the entrepreneur in a factory or concern of which he is owner or director, he should charge up to his credit three items :

1. Salary or fee for personal labour at the factory = S
 2. Rent for his ownership of land = R
 3. Interest on his ownership of personal capital = I
- Then there would be left :
4. Pure or net profits for bearing the risk of the whole business. This is uncertain and a residual amount. = P

Entrepreneur as Risk-bearer in Industry

There are several risks in industry which the entrepreneur cannot afford to take. For example, in nearly all factories and businesses of to-day the risk of fire is too great for one owner or one firm. So the entrepreneur pools the risk with entrepreneurs in general throughout society. Through the medium of a fire insurance company he pays an insurance premium, which he treats as a regular expense of production—thus relieving himself of the risk. The same applies to other risks, like risk of theft or loss of stock, as well as the risk of injuries which may be sustained by his wage earners.

Then again the entrepreneur is relieved of many risks, such as ill health or unemployment of his workpeople if he wants to retain their services after illness or after a period of unemployment, by contributing through social service taxation to Health and Unemployment State schemes.

All these risks he passes on as normal expenses of production, where he has the opportunity.

Industrial Competition. Because under private enterprise each employer has a potential rival and competitor in every other entrepreneur in his own industry, and in other industries, for land, capital and labour, the risks he bears are very much enhanced by the competitive character of industry. The risks of competition affecting his individual enterprise as an employer are often enhanced by the presence of large public enterprises—like a municipal enterprise or a state enterprise or a huge voluntary business enterprise like the C.W.S. (Co-operative Wholesale Society)—with their vast resources and organization.

In order to reduce these risks of competition, we find individual owners often combining with other owners so as to compete more successfully with the above public organizations, and so as to secure the advantages and economies characteristic of large scale organizations, controlled and planned by one mind.

If such an amalgamation can proceed along the lines of creating a monopoly, then the various risks are reduced to a minimum and the chances of a substantial surplus, as profits, are thereby increased.

The entrepreneur, if he is a successful agent, generally organizes effectively the supply side of his production and transport. He sees to the supply of raw materials, land and sites, labour and an efficient staff, mostly to manage and execute his plans for production. It is on the demand side, i.e. the marketing of his commodities to his consumers and potential customers, that the entrepreneur sometimes fails. The whole trouble in a competitive system is that the entrepreneur has to carry most of his production in anticipation of a demand that may not fructify. This is a risk that cannot be passed on to any insurance companies. It is one the entrepreneur has to face himself. He naturally tries to minimize the risk of failure to estimate or create a demand for his goods, by spending time, money and attention on publicity and advertising campaigns.

Amalgamation or monopoly eliminates a good deal of competitive advertising, but nevertheless, even monopolies have to advertise their goods and tell the public what they have to sell.

Uncertain Factors

The entrepreneur, as organizer, planner and employer of all the other factors—land, labour and capital—knows beforehand, from his cost of production or estimate of expenses, what he has to pay out as rent, wages and salaries, and interest. He has to be content with an uncertain balance left from the total income of the concern, after all expenses have been met. If it is large, then he has been right in his judgment as an enterpriser whose aim has been to make a large and substantial profit. In a competitive society industry has been allowed to develop freely through the initiative of private industry, with all its acceptance of the many risks.

When such enterprising concerns have become firmly established, the municipality or even the State may take over. In the case of local transport, gas, and electricity undertakings, a municipality generally steps in. In the case of railways, broadcasting or telegraph and other national ventures, the State may take over the enterprise, after compensating the private owners. The surplus accruing from such municipal or State undertakings relieves the rates or taxes.

Enterprise sometimes takes the form of consumers' enterprise, through voluntary co-operative organizations. This does not fundamentally alter the character of the shares distributed as rent, wages or salaries, and interest. These figure in the co-operative balance sheet. But the profit or surplus from the co-operative enterprise is shared by all consumers, according to the purchases, in the form of a dividend.

The surplus "P" in our earlier formula is not abolished. If anything the "P" is increased, because of co-operative organization economies. What is unique about the co-operative organization is that the "P" or surplus is divided amongst the purchasers, i.e. members of the co-operative society, according to the value of their purchases, as so much for every pound spent in the society's stores.

Many co-operative enterprise organizations are co-operative labour co-partnership concerns. These are special types of co-operative societies, where the profits, instead of being distributed only among the federated societies contributing shares of capital, are also distributed, by agreement, amongst the employees, as explained in the earlier lesson on wages.

EXERCISES FOR PRACTICE

These exercises are based on the information given in this section and are supplementary to those at the end of each lesson.

1. Try to explain in a letter to a friend why you find a study of production and distribution interesting.
2. "There is always a struggle between Human Nature and Nature." Explain this with illustrations from industry.
3. Labour is helped by capital! Explain this statement.
4. Why do people tend to think of capital as money or finance, and not as tangible goods?
5. Try to give reasons why statistical tables of the national dividend and national income are valuable to (a) Government officials and (b) economists.
6. Price is an important link between production and distribution. Explain this.
7. Rent is a useful key with which to unlock the general problem of distribution. Explain this statement with special reference to quasi-rent or unearned surplus.
8. Can you give some reasons why wages must have some relation to the standard of living?
9. If you were given the choice of becoming a landlord, wage-earner, salary earner, capitalist, or enterpriser, which would you prefer to be? Give reasons for your choice.

SECTION X

WORKS MANAGEMENT AND COSTING

LESSON ONE

MODERN INDUSTRIAL MANAGEMENT

THE emergence of works management as a separate subject of study has followed closely upon a change of outlook among industrialists, business men and others brought about by the earlier revolutionary developments in machinery, power supply, transport and communications. Most of us have learned something about the great social and economic changes wrought in the structure of our nation by the Industrial Revolution of the eighteenth and nineteenth centuries, and we are perhaps accustomed to regard that rapid and continuous succession of mechanical inventions and fresh applications of new sources of power as the cause of the indisputable rise of the general standard of living of our people that has taken place over the past fifty years.

But, by the opening of the present century, the main foundations of mechanical and technical progress had already been well and truly laid. Our thinkers and scientists were by then beginning to turn their attention to the principles and plans of the superstructure within the framework of which the new and potent productive forces were to operate for the benefit of mankind. In a sentence, the emphasis during the last fifty years has shifted from purely mechanical invention to the intensification and improvement of industrial organization. Industrial development has moved out of the stage when attention was concentrated exclusively on the machines and materials with which men worked to a position in which the utilization of available manpower in the most economical and effective ways possible is recognized as being of the very highest importance. Some such development was an inevitable accompaniment of the growth of division of labour, for, without efficient organization and management, the efforts of highly specialized workers would be largely fruitless in their outcome and chaotic in their effects.

So long as factories remain small—and official statistics show that in this country up to 1936 at any rate the predominant size of factory was one of about 250 employees—they are of course capable of some sort of fairly effective control by one man. But with the growth of mass-production methods, there arises an imperative need for breaking down the work of industrial management and control into a number of separate specialized functions, each of which for the sake of efficiency must be allocated to properly qualified individuals.

What, then, are these functions of modern industrial management? They may be summarized briefly as consisting of:

- (1) *Control of production*, i.e. the pre-planning of the works' production programme, and the fixing of production schedules, etc.
- (2) *Control of raw material*, i.e. the requisitioning, storing and regulating of raw material supplies and supervision of their use.

- (3) *Control of labour*, i.e. the engagement, training, payment, promotion and welfare of workers.
- (4) *Control of quality*, i.e. the supervision and maintenance of adequate standards of workmanship and processing.
- (5) *Control of cost*, i.e. the accurate determination of the cost of each article or class of articles manufactured, or of each contract undertaken or unit of service (e.g. electric current) supplied.
- (6) *Control of administration*, i.e. the linking up and welding together of all the other specialized functions with the supreme executive authority in the firm, so that the whole organization is kept working efficiently and the requisite production and other statistics are immediately available for checking up on the position in the works at any given moment.

Most of these functions are concerned either with planning the job (saying what shall be produced, how it shall be produced, and when and where it shall be produced), or with performance of the job (making the most efficient utilization of premises, plant and material, and assuming responsibility for control of workers and quality of the workmanship).

Conditions vary greatly from factory to factory, and it is consequently unwise to be dogmatic about method in works organization (which is essentially a matter in which each individual firm must very largely work out its own salvation), but it would appear to be a common-sense development that, wherever the two major responsibilities were too great for one man, then all arrangements for the actual job performance should be in the hands of the works manager, while the work of planning should devolve on another department usually known as the production control department. Here perhaps is the best indication we can get as to the nature and scope of the average works manager's job; and we shall see how his work and that of the production control department dovetail in with each other.

EXERCISE FOR PRACTICE

This exercise is based on the information given in the above lesson.

Select any industrial organization with which you are in any way familiar and consider in detail the functions of the management.

LESSON TWO

COMMODITY "X"

"**T**HAT's a clever gadget: I wonder who thought it out!" How often some such spontaneous tribute as this passes through the mind of a purchaser on seeing for the first time some ingenious product displayed for sale. Yet, sincere though such an expression of admiration may be, it is not usually very profound in its understanding and appreciation of the original thought, the careful planning, and the intensive application of labour and organization required before any manufactured commodity can be placed for sale on the market. However simple or however intricate the finished product may appear, its ultimate origin may be traced back to the realm of intangible

things, to some mysterious flash of human genius which gives birth to an *idea* in the inventor's mind.

After the idea comes the detailed designing of the product—a phase of production the importance of which can hardly be over-emphasized. It is not too much to say that the success or failure of a whole enterprise may be decided by the manner in which its chief products have been designed, for upon intelligent designing depends the usefulness of those products, and their usefulness in turn largely conditions their selling qualities. Much thought and painstaking research and experimental work may be required before a satisfactory design is arrived at, since it is a cardinal principle of modern manufacture that, before production really begins in earnest, experimental models should have been put through the most extensive and gruelling tests possible. Only in this way can the designer be made aware of unexpected weaknesses in the product, of inability of certain parts to stand up to average wear and tear, etc., and of the consequent necessity for modifications in design or alterations in the material employed or both.

Many products can be manufactured in more than one kind of material. If the products are machines, there are various kinds and qualities of metal that can be employed for their moving parts ; if, on the other hand, they are simple non-mechanical articles, such as chairs or door handles, the designer still has a wide variety of materials from which to choose. It is evident then that in many instances design may be influenced by the material in which the product is ultimately to be manufactured, and the necessity for a good designer to be intimately conversant with the technical peculiarities and physical properties of a wide range of alternative materials can be readily appreciated.

Production Drawings and Parts List

A satisfactory design having been evolved and passed through the necessary experimental tests, the next stage in production is reached with the preparation of a complete series of production drawings, one drawing for each separate part of the product. These drawings must be clearly dimensioned ; they must specify the precise kind and exact quantity of material to be used for making the part ; indicate the maximum and minimum allowances for "tolerance" for proper fit ; and must also show the sort of "finish" (e.g. machining, polishing etc.) to be applied to the job. The execution of these drawings with the most meticulous accuracy is the task of the drawing-office, which, in an engineering concern, may be a department of considerable size with teams of draughtsmen, tracers and typists. Over all their activities the chief designer maintains a vigilant control.

After the whole series of production drawings has been made, each separate drawing is allotted a distinctive number. It is better if the numbers are arranged in different series, so that components going to make up a special part of some mechanism, for example, can be readily identified as belonging to one another. Thus, a complete front cycle hub assembly might be allotted the number H2, and its components numbered somewhat as follows—the hub shell H21 ; ball-race for hub H211 ; steel balls for hub ball-race H212 ; front spindle H22 ; right-hand cone for hub H221 ; left-hand cone H222, and so on. When some such system as this is adopted it is possible for the number of the drawing to serve also as the number of the actual part and its

pattern, and in this way an unnecessary and confusing multiplicity of numbering by different departments is avoided.

The next job of the drawing-office is the drawing up of the "Parts List" or "bill of material" as it is sometimes called. This amounts to a detailed and complete specification of the finished product and shows the part number, official description, and quantity employed of each individual component. With a proper system of classification as a basis for part numbers, and with a parts list compiled on sound logical principles, the need for additional operational drawings showing how the various parts should be assembled in the fitting shops is reduced to a minimum. The parts list is thus of considerable importance in assisting the smooth functioning of the whole productive unit, since it will be employed as a basis upon which all necessary raw materials will be ordered, as an indicator of the machine tools and equipment essential for the actual production, and as a guide to the final processes of assembly.

The usefulness of a properly compiled parts list does not cease here, for it will be employed by the inspection staff also in checking up on the kinds and qualities of the various materials used during the various stages of production, and finally it will be carefully studied by the accounting department as a preliminary to the process of costing the product as described later in Lessons Twelve to Fifteen.

It will, therefore, be appreciated that the responsibilities of the drawing-office are both numerous and weighty, and that it is this department which forms the vital link between the genius of the designer, the skilled precision of the production engineer, and the profitableness of the enterprise as determined by sound accounting principles.

EXERCISE FOR PRACTICE

This exercise is based on the information given in the above lesson.

Select three articles and think out the various stages in the production of each.

LESSON THREE

ORGANIZATION AND PLANNING OF PRODUCTION

IN every works the methods of organizing and planning production programmes depend fundamentally upon the kind of productive effort involved. It is usual to distinguish three main types of production, which are known as job production, batch production, and flow production, these terms being to some extent descriptive of the manner in which the finished product is eventually turned out.

Job production consists of organizing and executing work with reference to a specific job or contract: good examples of this type of production would be the building of a bridge or ship, the construction of a reservoir, or, on a smaller scale, the overhaul of a lorry. Obviously job production has, and always will have, a not unimportant rôle to fill in the varied and impressive pageant of Britain's industrial activity; but it is not the system under which most of this country's manufactures are produced.

Wherever job production obtains, however, the sequence of procedure is

first for the firm or corporation desiring the work to be carried out to invite competitive tenders from concerns likely to be interested. This is usually done by public advertisement, except where the contract is of a highly important specialized nature, in which case probably one or two well-known firms will be approached directly and requested to submit estimates and suggestions for the work. Thus job production involves effort and expense for firms interested even before a contract is finally secured, for the preparation of the tenders involves much planning, estimating and preliminary designing ; and, after all this work has been conscientiously carried through, the contract may eventually be awarded to some competitor.

Once a contract has actually been secured, however, the original plans upon which the successful tender was based are developed and analysed into a detailed production plan setting out precise particulars of all the kinds and quantities of materials that will be required, the amount and types of labour that will have to be engaged, and the times by which the various stages in the whole sequence of operations should be completed. Only in this way is it possible to ensure that those costly items, labour and materials, are available at the right places, in the right amounts, and at the right times. Job production methods, therefore, in any large contract make immense demands upon the chief engineer's organizing powers as well as on his technical knowledge and ability.

Probably the most common method of organizing work in the British engineering industries, however, is that already referred to under the name of batch production. This term is applied to the system of turning out from the factory a defined quantity or " batch " of a product at a time ; and, since most well-equipped works possess machines and tools suitable for general purpose manufacturing and adaptable for dealing with all sorts and varieties of engineering work, it will readily be understood that one factory may at any time be engaged in turning out numerous " batches " of different individual products. Apart from the manufacture of such products as dynamos, electric motors and switchgear, where batch production is common, this method of production is also employed in lighter work such as the finishing of batches of component parts in accordance with the specifications of some larger manufacturing firm that does not wish to go to the trouble or expense of installing specialized plant just for that purpose.

Successful batch production requires careful and detailed planning as well as vigilant control over the progress of work through its various stages, for it must be remembered that the production programme will be constantly altering as different batches of work are contracted for by the management. Another essential for success is a satisfactory system of costing so that the exact cost of production for each finished batch can be accurately and precisely assessed. Thus, intimately bound up with the efficient operation of batch production methods, are what is technically known as good production control organization and a sound system of cost accounting.

Production control is again of major importance for the successful operation of the third, or flow type of production. Flow production applies particularly to mass-produced articles such as vacuum cleaners or radio receivers, and its main feature consists of the organization of the various processes of production in " line " sequence. The material being worked on thus

commences its production career in the first machine at one end of a "line", then "flows" from this to a second machine for the next process, and so on from one machine to another, each one of which has some particular process to perform, until the finished part emerges from the last machine of the line to be promptly transported, probably by a conveyor belt, to that part of the works where it will be assembled together with other component parts in order to make the final completed product.

The assembling itself will also probably proceed on flow production lines, the finished product being gradually built up on a conveyor belt which moves it steadily, at a rate pre-determined by the production plan, from worker to worker so that each can apply his specialized touch until the whole assembly is ultimately completed and ready to be subjected to its final tests. Obviously this type of production involves very detailed and comprehensive pre-planning and organization; clearly too, it necessitates very heavy expenditure on highly specialized machine tools, jigs, and a carefully worked out system of standardized parts, processes, tools and materials. From all this it follows that flow production will be an uneconomic method unless the product is of a type that can be turned out continuously over a period of at least a year, without the necessity of effecting any major alteration in design. The production of motor-cars by this method affords an illustration of this point.

Object of Production Control

It will be noted that reference has more than once been made to the necessity for production control, and, indeed, this topic is so important that it will be dealt with in greater detail in Lesson Five. Meantime, however, and for the benefit of readers who may be unfamiliar with the term, it may be explained that the object of the production control department of a works is to co-ordinate the order of movement of all elements in the production programme, in relation both to one another and to the programme as a whole, so that the final product may be turned out in literal accordance with carefully pre-determined plans.

The need for production control systems arises fundamentally from the sweeping changes in industrial conditions that have taken place during the last 30 years.

As a result of technical improvements and scientific progress production tended to outstrip demand while, on the other hand, markets became disturbed and uncertain. In such circumstances the reduction of production costs and the elimination of excessive stocks, which merely immobilized capital that could be more effectively employed in other directions, became a primary necessity. Reorganization of production methods in accordance with plans meticulously prepared beforehand was thus simply forced upon most engineering concerns, as well as on many firms in other industries, and the growth in importance and status of production control departments has been the visible result of this process.

EXERCISE FOR PRACTICE

This exercise is based on the information given in the above lesson.

Prepare a list of manufactured articles and indicate in each case whether the article is produced by the job, batch or flow production method.

LESSON FOUR

FACTORY LAYOUT AND EQUIPMENT

WHAT are the considerations which go to settle the choice of some particular site for a new factory? The answer to this question has very definite practical interest for the works manager, because the satisfactory selection of a site involves an appreciation of many factors intimately affecting the day to day functioning of the works, such as accessibility to raw materials and markets, availability of labour supply, transport and power. The simple physical feature of superficial area also is of obvious importance when choosing the site for a factory.

Not only must there be sufficient ground of a character suitable for bearing both the area and the weight of the structures it is immediately proposed to erect, but also the need for additional space to meet the requirements of possible future extensions of the works should be kept in mind. The cost of the land itself and of the annual amount payable as rates, though not the direct concern of the works manager, will of course be a very pertinent consideration in arriving at a decision upon any particular location.

A suitable site having at length been selected and purchased, the next problems immediately arising will be those concerned with the design, layout, and equipment of the factory itself. The design of a factory is much more than a mere paper plan, for it requires considerable knowledge of the kinds of machinery that are going to be installed, and of the various manufacturing processes that will be involved as well as of the sequence of their operation. Thus, it is impossible to assert dogmatically that for *all* factories a single-floor layout is the best possible arrangement: in some instances a multi-storied structure may well prove far more suitable and economical. In any case, however, construction on fire-proof principles is highly desirable not only from the point of view of reducing the actual risks of fire, but also because the cost of annual fire insurance premiums will thereby be diminished.

Ample and effective lighting, heating and ventilation are again obvious points demanding careful attention when the factory is being designed. The roof in particular often presents peculiar difficulties, for, besides the necessity for being wartertight, it should not allow the condensation of moisture to occur on its under surface during cold weather.

As to the selection and arrangement of the internal equipment of the works, it needs little imagination to realize that expert knowledge and very careful planning will be necessary if complete confusion, or at the very least, uneconomical operation, is to be avoided. A fairly accurate estimate has first to be made of the number of each kind of machine that will be required. This cannot be done by guesswork, so the times required by the various types of machine-tools on each separate part of the product have to be carefully noted beforehand. Many different parts may, of course, pass through the same type of machine and be submitted to the same type of process and this must be taken into account when calculating the total time required by each type of machine to ensure the production of one single complete finished product. This having been ascertained, however, it is only necessary to multiply by a factor representing the required rate of production to arrive at fairly accurate

figures of the number of the various machines that will have to be installed for a pre-determined output. The arrangement of these machines and of other internal equipment is not a matter for decision by any one individual, and in practice it is usually dealt with by a composite committee consisting of representatives of all the factory departments affected.

With either batch or flow production methods in operation it is essential that the arrangement and layout of the various machine tools should be capable of speedy alteration, so that they can be switched around with the minimum of delay in order to deal efficiently with any fresh product or any modification of design. Flexibility is thus a feature to be looked for.

Of very great assistance in achieving this flexibility is the maintenance of some system of standardization throughout the works. Thus, so far as is practicable, the machines employed should be of the same make, since their individual performances will then approximate fairly closely to a known standard, while such matters as overhauls, fitting of spare parts and various accessories, will also lend themselves to treatment along standardized lines.

Jigs and Tools

The subject of standardization leads naturally to consideration of another very important aid to batch or flow production, viz. the provision of jigs and other tools and fixtures. This is usually entrusted to a special department of the works known as the jig and tool department, generally consisting of two sections, one of which is concerned with the design of the various jigs and fixtures and the other with their actual manufacture in sufficient quantity.

To the uninitiated reader the term "jig" may require some explanation, and it may therefore be stated that it refers to any appliance specially designed and made to hold the part being worked upon in such a way that it is always correctly positioned to a very fine degree of accuracy. Thus with the aid of special jigs it would be possible to deal with a large one-piece casting of a cylinder and top half of a crank-case, so that the boring of the cylinder and the drilling of all necessary holes in the crankcase could be effected with absolute accuracy in one operation instead of having to position the part afresh for the independent drilling of each separate hole.

A simplified example such as this cannot possibly do justice to the immensely important part played by jigs and tools in modern production, for which indeed they must be regarded as absolutely essential equipment. Without their use the interchangeability of component parts could not be guaranteed; while it would be necessary to employ highly skilled workers to perform jobs which, with the aid of jigs, are reduced to operations of such simplicity that they can be performed perfectly well by semi-skilled or even unskilled labour. Of course, the actual making of these jigs, tools and similar fixtures requires mechanical craftsmanship of the very highest degree of skill and this is recognized by many firms employing such workers on a permanent basis and paying them according to time rates instead of by piece rates.

Before leaving the subject of works layout and equipment a word should be said with reference to problems of power supply. Electricity forms the usual means of power in most factories to-day and possesses such obvious advantages in the way of cleanliness, ease of starting and stopping, and reduction of noise, that there is no need to enlarge upon these. A more difficult problem than

that of determining the kind of power to be employed is presented by the question of whether that power shall be supplied by and purchased from some outside body such as a large electricity supply undertaking, or whether it shall be generated by a special department of the works actually on the spot.

By employing their own generating plant and staff of maintenance engineers, the works are in a better position to rectify quickly any possible breakdowns, but, on the other hand, the cost of generating power in this way may be greater than that of purchasing it in bulk from an outside source of supply. Again, another problem that will have to be decided is whether there is to be individual drive to each machine or not, i.e. whether each machine is to be driven by its own separate motor, or whether power is to be supplied from one source to all machines by a system of shafts, pulleys and belts. The modern tendency appears to favour individual drive, and certainly, breakdowns under this system need not cause general dislocation or stoppage of production; but, as against this, the original cost of installation will probably be higher.

LESSON FIVE

PRODUCTION CONTROL AND PROGRESS DEPARTMENTS

THERE is no hard and fast scheme for organizing control of production that can be applied infallibly to any and every productive concern.

Each works will have to be carefully studied and considered on its own merits before judgment can be passed on the effectiveness or otherwise of its system of production control. As a basis for exposition, however, it is proposed to describe a division of responsibilities that has been found desirable and highly successful in one particular instance.

Apart from the board of directors and managing director, the higher executive administration of this firm consists of the secretary and treasurer (who are responsible for the usual secretarial and financial arrangements of the company), the chief accountant (entrusted with all the accounting, costing and statistical work), the chief engineer (assisted by the chief designer and responsible for design, experimental and developmental work in connexion with the company's products), the sales manager, the chief purchasing agent (or buyer), and the production organization (which, under the works manager and the superintendent of production control, is entirely responsible for every phase of manufacture).

The production organization is thus differentiated into two separate but closely related sections. One, under the superintendent of production control, is responsible for "Planning the Job"—i.e. for working out exact details of *what* shall be produced, *how* it shall be produced, and *when* and *where* it shall be produced—while the other section, under the works manager, looks after everything to do with the actual performance of the job, i.e. it has final control over the operation of all plant, the manufacture of jigs and tools, the discipline of the staff, quality of workmanship, and provision of works services such as fire and first-aid.

Lest it should be thought from this somewhat simplified description of the relationship existing between the works manager and the superintendent of production control that the latter official has the first and final say about what

production shall be undertaken, it must be pointed out that there is a difference between the initiation of actual processes of manufacture and the preliminary authorization necessary before the works can undertake any specific manufacturing contract. The initiation of manufacture is certainly the concern of the production control department, but the decision as to whether some particular piece of work is to be undertaken at all is, of course, a matter for the highest executive authority in the organization, viz. the board of directors and the managing director in particular.

Before arriving at his decision, the managing director will of course have called into conference all the various departmental heads concerned with design, production, sales and accounting; for only by some such means can these officials be made aware of the lines along which they will be expected to co-operate and to provide one another with whatever information may be required. Once the management has authorized work to proceed, then the production control department must take charge.

Duties of the Production Control Department

It would occupy too much space to set out here all details of the manifold duties to be performed by the production control department, and a brief summary of some only of the most important items of procedure is therefore all that can be attempted. Having received from the drawing office a full and comprehensive specification of the product, the department must issue its production instructions to the other departments concerned, detailing the amounts of various materials to be ordered and the dates by which they should be ready. A "process layout instruction" must also be drawn up, which will show the exact jigs and tools to be employed for each process of manufacture. Decisions have then to be made as to the quantity of product that will constitute an economic batch, and as to the production time that will be required for each such complete batch.

Next, the production control department will have to undertake the preparation of a variety of schedules, or time-tables, setting out in detail the dates and rate of manufacture of the different parts, of delivery of raw materials, and of availability of the requisite jigs, tools and other equipment. At the assembly end of the organization, again, the production control department has to make out a general programme of operation for the assembly shops, to draw up lists of any materials that are short and to urge on the rectification of such shortages, and also to ensure through the vigilance of its progress section that the assembly schedule is strictly adhered to.

The key position occupied by the production control department in the works organization, and the manifold functions it has to undertake, necessitate a very careful internal division of its responsibilities; so that in a large concern we may find that the department comprises six or more specialized sections, each under the charge of its own expert supervisor. As an example of one such highly efficiently organized system of production control may be cited a department which embodies specialized sections relating to specifications, material control, process and rate-setting, planning, goods inwards, stores, progress, works transport, and external transport—no fewer than nine sections in all—each with clearly defined responsibilities, but operating in close co-operation with one another. Of these nine sections mentioned, five

may perhaps be regarded as typical or essential divisions of production control: these are the specification, material control, process and rate-setting, planning and progress sections ; and a short description of their functions may form a fitting conclusion to the present lesson.

It is the specification section which is responsible for compiling the main production programme, the parts list (if this is not prepared by the drawing office), the production schedules (giving details of production requirements for a given period of weeks or months), for issuing production instructions to the various manufacturing departments, and for the collection of all necessary production statistics.

The section concerned with material control has, as its name implies, to requisition and control all material supplies for production—a function of extreme importance to any pre-planned production programme, especially where the works is dependent on outside sources for its supplies. It has also to record all details of requirements, orders, movements of materials and stocks, and to exercise control over any material that may become surplus or redundant.

The process and rate-setting section has for its main functions the planning of a series of manufacturing operations and the working out of the times that should be taken on these. It begins therefore by preparing detailed "time studies" with the aid of which the previously mentioned process layout is constructed, and it also carries out various investigations with the object of fixing target times for the different operations concerned. Such work involves expert knowledge of the possibilities and limitations of plant, the types of machines required for each operation, the sequence and time necessary for each operation, the materials and processes employed, and the jigs and tools necessary for the economic production of each component.

From the foregoing description of the process and rate-setting department, it might at first be thought that a separate planning section would be almost superfluous. The work of the planning section, however, affects all the elements of the production programme—not only the actual manufacturing processes—and lays down in advance just when all these elements should be put into effective operation. It is this section that bears the responsibility for ensuring that all tools, materials, plant and labour become available at the right time and place and in such a manner that the production programme may be completed within the pre-determined period.

Finally there is the progress section, the prime function of which is to see that a correct and adequate flow of material passes through the manufacturing departments to the assembly shops in fulfilment of the pre-planned manufacturing schedule worked out by the planning section. For this purpose progress men are allocated to the various manufacturing and assembly departments, whose job it is to see that all machines in their departments are kept continually in operation on the parts that are necessary for maintaining the production programme.

EXERCISE FOR PRACTICE

This exercise is based on the information given in the above lesson.

Into what sections is a Production Control Department usually divided ?

REQUISITION AND CONTROL OF RAW MATERIAL

IN this lesson we shall consider the arrangements for ordering, checking, storing and issuing whatever materials may be required by the works. It has already been indicated that the control of material supplies is really a function of production control ; but there are many concerns either too small or else without sufficiently highly organized systems of production control to warrant the maintenance of separate material control departments, and, in such instances, the buyer or purchasing agent will probably be made responsible for the necessary arrangements. The matters that will here be dealt with, therefore, will be of a general nature common to all systems of material control, and must not be considered as a detailed amplification of the work of a specialized material control department such as that referred to in the previous lesson.

A manufacturer is necessarily dependent on regular supplies of various kinds of materials produced by other industries. Such materials may be classified into two main types, usually referred to as *rough* and *bought finished*, the former consisting of raw material proper, such as steel and timber, and the latter being actual finished parts purchased as such from outside firms.

In a large concern the annual quantities of rough and bought finished materials will have to be considered in terms of thousands of tons of steel, hundreds of acres of other material such as celluloid, thousands of miles of insulated cable, hundreds of tons of paint and probably hundreds of thousands of small parts, castings, etc. When it is realized that all this material not only has to be inspected for quantity and quality, but also has to be properly stored and then checked on issue to the manufacturing departments, and, further, that all this has to be accurately co-related with the general production programme so that every item is there for use precisely when it is required, it will be agreed that efficient material control demands expert technical knowledge and a high degree of skill in organization.

The ordering of material supplies is usually effected by a procedure somewhat similar to the description that follows. First, a purchase requisition giving details of kind and quantity of material required is issued on the buyer or purchasing agent. This should originate from a material control clerk in the event of production control being the responsible department, or otherwise it should come only from the stores department. The purchasing agent, having secured a satisfactory quotation, then makes out a purchasing order of which there are usually several copies, one being sent to the suppliers, one kept for permanent filing, one for use of the stores department, and probably one for the receiving department.

Within the buyer's department strict and detailed records must be kept of the purchase, delivery and destination of all stock. A common system is to have one suppliers' record card and one commodity record card, the latter providing a reference to various suppliers of the particular commodity and a record of prices and discounts quoted by them. Such records should be collated with service records kept in the works, showing whether the materials received have proved satisfactory in use. Such records, if carefully and

conscientiously kept, are of immense help to a buyer in making satisfactory purchases, for it must be borne in mind that price is not necessarily the chief factor to be considered. Maintenance of even quality of materials and of fair and accurate weights and quantities, together with prompt and satisfactory methods of conducting business, are also important elements entering into the buyer's judgment before he places a contract with any particular supplier.

Storekeeping and Control

The keeping and handling of stores of rough and bought finished materials is in many concerns regarded as a function entirely on its own, and, where the works are not so large as to render such an arrangement impracticable, it is often centralized in the hands of a storekeeper who is under the supervision of, and directly responsible to, the works manager. The modern tendency, however, especially in very large factories, is to decentralize the actual keeping of stores among the departments for which they are intended, while at the same time maintaining a central control and supervision of the departmental store-keeping as a responsibility of the production control department. Advantages of this decentralized store-keeping are that much unnecessary handling and transport of material from one part of the works to another is avoided, while the need for a storekeeper with an almost encyclopædic knowledge of materials no longer exists.

In factories where store control is not a function of the production control department, the storekeeper and works manager will be the responsible officials as already stated. The storekeeper's first duty will then be to satisfy himself that the materials delivered correspond in quality and quantity with the orders placed by the buyer, and to do this he will probably have to send samples to the works laboratory to be submitted to chemical or physical tests. Copies of the laboratory's report should be sent both to the buyer and the storekeeper, so that all parties concerned can be assured that the materials in every way conform to the standards expected of them. The next responsibility of the storekeeper is to keep the works manager advised at regular intervals, probably weekly, of changes in the stock position. This involves careful and conscientious record keeping and the compilation from such records of a weekly stock return, by the aid of which the works manager can see at a glance the quantities of materials on hand at the beginning of the week, the amounts received and issued during the week, and the amounts of closing stock with explanations of any apparent discrepancies disclosed by the figures.

A word must be said at this point concerning the procedure to be adopted with surplus and obsolete material which, it must be remembered, will consist not only of consumable stock but also of certain spare parts, jigs, tools and fixtures. It is highly important that there should be separate sections of the stores to deal with all such materials, because the value of surplus or obsolete stock will differ greatly from the value of stock that is in active demand, and, unless care is taken to see that all materials are truthfully classified, stock values are bound to be distorted and costs consequently falsified. It has been said with much truth that "good storekeeping means accurate stock-taking" and, while there is of course a good deal more in it than this short statement superficially suggests, it is a fact that if stock-taking is not correctly conducted the works costing system is likely to be imperilled.

As regards the issue of stores, it is impossible here to go into detail, especially as almost every works has its own individual system. As a matter of common principle, however, there should be no issue of material of any kind without some form of signed request and authority. If the material is consumable stock such authority will probably take the form of a copy of the works order concerned, while, if equipment of a more permanent nature is involved, it should be issued only against a proper requisition signed by the manager or foreman in charge of the department requiring the stock. It is essential that the works manager should be able to rely confidently upon a storekeeper who is both competent and conscientious, since only in such circumstances can he feel sure that issues of material and equipment will be no more than the exact amounts requisitioned, and that inexplicable and expensive shortages of stock will not be permitted to occur.

EXERCISE FOR PRACTICE

This exercise is based on the information given in the above lesson.

"The closest link should be maintained between the purchasing and stock control functions." Discuss this subject.

LESSON SEVEN

FOREMANSHIP AND ITS FUNCTIONS

THE old-fashioned foreman was the "practical man" who, partly by real ability and skilled craftsmanship but more often mainly by sheer force of his aggressive personality, had risen from the ranks of manual workers to a position where he became the absolute boss of his particular section or department of the works. Nothing that occurred in his special domain was beyond his right of control: there was no function he was not expected to exercise within his limited sphere of authority; and so, to some extent, it could truthfully be said that he was a kind of jack of all trades but master of none.

Too often in such circumstances, burdened with difficulties many of which were beyond his powers to cope with, he would try to achieve results by hard driving, threatening and even bullying the workers under his charge. The foreman's work was then perhaps rather unkindly epitomized in popular language as consisting of hiring and firing.

If one were asked to summarize briefly in contrast the work of the modern foreman in industry, it would be a fair answer to say that it can be considered under three main heads, viz. his work as a technician, as an organizer, and as a leader. Let us examine these a little more closely. First, his work as a technician. The successful foreman must have a thorough and detailed understanding of the technical processes carried out in his department: this is necessary not only to enable him to maintain quality of work, but also so that he can quickly trace and rectify faults and breakdowns that may occur. Further, a genuine and intimate knowledge of all practical details of the work is calculated to instil a sense of respect into his subordinates, which will be a powerful contribution towards the general efficiency of his department.

As an organizer the foreman must possess the ability to detect where some at any rate of his manifold duties can successfully be delegated to other workers in his department. It is wrong and faulty organization if much of his time is taken up in attending to trivial and routine matters : it is his job to direct other workers on the proper carrying out of such tasks, not to perform them himself.

As an organizer again, the successful foreman should be able so to plan out the work of his department that everything proceeds in an even, orderly way, yet without exhibiting that irritating rigidity of system which raises a whole catalogue of almost insuperable difficulties whenever some rush job or slightly unusual work has to be undertaken.

Finally, in his relationships with the workers under his charge, the successful foreman must be able to exercise many of the qualities of good leadership. Personal example must be there on matters such as punctuality, conscientiousness, good temper, and respect for superiors ; he must be tactful and considerate, yet fair and firm, in his dealings with subordinates ; and he must be capable of giving orders or instructions clearly and simply without possibility of misinterpretation. If he can induce his workers to take some of the conscious pride of craftsmanship in their work and at the same time to feel that, if they experience any difficulty or trouble directly affecting their jobs, he is the person to whom they can confidently turn for understanding, sound advice, and active help, then his success and status as foreman, supervisor, or superintendent will be assured and permanent.

Such general observations as the foregoing must here take the place of any detailed account of modern methods of supervision, which will be found fully dealt with in almost any up-to-date textbook on works management or foremanship ; but before leaving this subject the reader's attention should perhaps be drawn to two ways in particular in which the foreman can enhance his professional reputation with workers and management alike, viz. by knowing how to blame and when to praise.

To administer a sarcastic rebuke or stinging reproof to a subordinate in the presence of others is usually to ask for trouble. That the reproof was perhaps well deserved is beside the point, which simply is that not only does such action engender a sense of unjust humiliation in the worker concerned, but also it arouses feelings of acute discomfort, if not of sympathetic resentment, in those who are witnesses of any such scene. In any event, all the foreman is likely to gain from such a procedure will be a reputation for ill-temper and disagreeableness.

On the other hand, the bestowal of well-merited words of encouragement and praise for good or intelligent work is something that features far too rarely in supervisory activity of any kind. The attitude that good work is expected and therefore calls for no special comment is all right up to a point, but should not be pushed too far. A good foreman will always remember that before anything else his job involves relationships with human beings and he will realize that they are very susceptible to psychological influences such as suggestion, encouragement and praise. By judicious employment of these influences on suitable occasions, he will evoke far readier response and more enthusiastic effort from his workers than he could possibly secure through the most energetic display of bad temper or abuse.

HUMAN FACTOR IN WORKS MANAGEMENT

In all occupations involving close and constant contact with other persons an intelligent understanding of human nature makes matters very much easier for all concerned, and works management forms no exception to the general rule. This lesson, therefore, deals very briefly with some elementary but fundamental matters in industrial psychology.

We may begin by asking ourselves what are the motive forces by which men's actions will be governed in the factory, and whether they will be any different from those affecting their activities elsewhere. It may straightway be confidently asserted that men and women remain men and women whether they work in the factory or office, or whether they pursue their peaceful leisure occupations in the quiet seclusion of their own homes. The main-springs of human behaviour are everywhere and for everyone the same, and are to be found chiefly in those powerful inborn forces—still as yet imperfectly understood—usually known as our "instincts," with their accompanying emotions. It is not proposed to catalogue these various instincts and enter into a detailed account of how each may be expected to influence the actions of men and women in industrial surroundings, but rather to select two or three which are likely to assume special importance in the factory and for the excessive manifestation of which the works manager should be unobtrusively but warily observant of his workpeople.

It is usual to mention first in this connexion the acquisitive instinct, or instinct of possession, which is both prominent and common in industry and business activity of all kinds. The industrial magnate, or business man, pursues his profession of becoming director of one large concern after another, of floating new companies, or of carrying through intricate and immense schemes of amalgamation of firms, mainly because of the urge and driving force of this particular instinct. At the other end of the scale, again, we often find the factory hand exhibiting the same tendency in a slightly different form, when he refers to the machine on which he works as "my" machine, and very often shows keen resentment if he is transferred from that machine to another of exactly similar type.

Evidence of the instincts of self-assertion and aggression, again, are frequently encountered in the course of one's daily experience in the works. Who, for instance, has not met with the loud-voiced foreman or fellow-worker who persists in airing *his* opinion of how this or that should be done, or on what lines the factory should really be run? The insatiable ambition of some business men is also probably an expression of these two instincts in combination. A more subtle example of the operation of the instinct of self-assertion is that of the worker who takes a conscious pride in his work, and who likes to feel that he has somehow been responsible for imparting an individual touch to the finished job. There is here of course something positive and creative which, if sympathetically handled, may yield results beneficial in the end not merely to the factory concerned but to society as whole.

On the other hand, if the expression of an instinct such as this is not carefully guided and fostered, but is ignored or ridiculed and repressed instead, an acute

conflict may be evoked in the mind of the worker concerned. His inner self yearns vainly for some means of self-expression, and he rages bitterly against the external conditions which, as it seems to him, deny him the supreme enjoyment of exercising his innate abilities. Continuance in this mental state for any length of time will probably result either in the worker's becoming one of the perverse, discontented type—always "agin the government" however fair, efficient, and benevolent it may be—or else in his developing a passive, dully acquiescent attitude towards his work, while at the same time seeking his outlets for self-expression in other directions during his leisure time. In this latter event, he may develop a passion for some particular form of hobby or, less happily, he may strive to forget the realities that thwart him by excessive indulgence in drink or dog-racing.

Before concluding this lesson, brief reference must be made to two other important instincts which manifest themselves in industry. The first of these, the instinct of escape with its accompanying emotion of fear, has unfortunately for many years been all too prevalent among workers in most industries and trades. Its operation is prompted not so much by the hectoring activities of stupid foremen or untrained works managers, as by the chronic awareness of the employee of the insecurity of his employment.

It is often argued that without the fear of dismissal in the background the worker will tend to become lazy and slack, and that the efficiency of the works will suffer in consequence. But this is, to say the least, a highly contentious point of view; and one may perhaps be permitted to reply that the efficiency of the works is far more likely to be promoted, both in degree and duration, if the workers feel they can confidently look forward to years of continuous employment, than if they are dogged by the thought of loss of work.

Finally we must mention what has been called the gregarious or group instinct. It is a fact that when people are in a group, their behaviour is different from what it would be if they were acting as isolated individuals. Without going into reasons for this, we can cite as an obvious illustration the ease with which the passion of a mob or crowd can be aroused, so that it commits acts of terrorism or violence from the mere thought of which its members would probably shrink as individuals. And again, with a group properly led and soundly disciplined, there emerges something totally different to which we give the name of "esprit de corps" or the "team spirit"—something that is outside the individual and yet in which the individual can loyally participate with the feeling that he is benefiting others besides himself. This is, of course, the kind of response that an intelligent and conscientious works manager should endeavour to evoke from the employees in his charge.

LESSON NINE

INDUSTRIAL WORKERS: TYPES AND TRAINING

WORKERS in industry may be classified in more than one way. There is first the official method, adopted for statistical purposes, of grouping them according to age and sex into "men, women and young persons," but, as the theme of this lesson is to be training of workers rather than the examination of the statistical evidence about them, some more suitable

classification than this is required. Another commonly adopted division of industrial workers is into three groups of labour, known as skilled, semi-skilled, and unskilled. It is still customary to confine this latter classification to male workers only, but with the extensive and increasing incursion of women into all grades of industry, it is to be expected that its usage will gradually be extended to include all types of female labour as well.

Though lacking somewhat in exactness of definition, it is a useful classification because it draws attention to the nature of the work performed by individual workers. The skilled worker is one who has had careful and fairly lengthy training supplemented by some years of practical experience. He is in the minority of workers as a whole, although several industries—especially engineering—must always rely on being able to employ a fair percentage of such men if their hard-won reputations are to be maintained.

In industry as a whole, semi-skilled employees constitute the most numerous type of workers and consist of those who have been trained to use their mental powers along lines that have previously been worked out for them. For example, the machine operator in a factory or mill, or the signaller in his box, is not called upon to exercise his powers of initiative, his creative faculties, or even skilled manual dexterity, but only to perform certain operations which, while demanding intelligence for full comprehension of their importance and proper sequence, have been carefully prescribed and mapped out for him beforehand. The chief engineer of one of the largest motor-car firms in this country, turning out more than 2,000 motor-cars per week, once stated that in his own factory there were no fewer than 259 different classes of labour, but that of these the really skilled workers could be grouped into just about a dozen classes, most of which were to be found in the jig and tool department.

Last, we have the unskilled workers. They are not so numerous as the semi-skilled, simply because their use to industry depends solely on the physical or muscular effort they can exert without the aid of machine power, and there are few branches of industry to-day in which machinery does not play an important part. There must always be numbers of such "hewers of wood and drawers of water," however, partly because there will always be certain jobs which, either owing to their nature or to the operation of the criterion of "cheapness," are best performed by simple manual labour.

Methods of Training

There are probably few subjects more important for Great Britain's economic and industrial progress than that of technical training and education; and it will be well, therefore, to glance shortly at the methods of training at present existing for our skilled and semi-skilled workers. One of the oldest systems of training, extending back to the sixteenth century or earlier, is that of apprenticeship. In its fullest sense this implies a legally binding contract, known as an indenture, by the terms of which the master undertakes to train the apprentice and teach him the trade for a period of years, while the apprentice on his side agrees to give good service to his master, to be of good conduct, and to perform all he has undertaken according to the terms of the indenture. Apprenticeship of this formal kind is gradually falling into disuse, as also is the system of paying a premium in return for being taught a trade. It survives in part, however, in most skilled crafts; and the majority of large

industrial firms also retain the name of apprenticeship for the organized courses of training which they give to their own carefully selected trainees of about sixteen years of age. Generally these youths not only have to spend definite periods of time actually in the various departments of the works, so that they can eventually follow production through all its stages and processes, but also they must attend classes at a local technical college for a specified number of hours instruction each week. Thus their practical training in the works is supplemented with the essential theoretical and technical knowledge they must have if, later, they are able to assume positions of executive responsibility or even to become truly skilled workers.

For the training of the semi-skilled worker there is usually an informal contract of service, which is perhaps even an oral one at that. Such trainees, if young, may be given similar opportunity of attending classes for specialized technical instruction and, if clever and industrious, they may ultimately succeed in qualifying as skilled workers. Older trainees—usually far more numerous—are not so much attracted by the idea of technical education, and prefer to concentrate instead on intensive courses of practical training in the actual works with the object of becoming properly trained machine operatives in the minimum period of time possible.

LESSON TEN

MANAGEMENT OF LABOUR

IN most modern concerns, unless they are only small enterprises, there is a separate department under the control of a personnel manager, which is responsible for the engagement, promotion, welfare, and dismissal of staff throughout the whole works. Formerly, as has been previously indicated, the foreman of each department usually had unchallenged say as to which workers were to be taken on in his department and when they were to be dismissed. Readers of Upton Sinclair's well-known novel *The Jungle* will remember the humiliating experiences suffered by its central character, Jurgis, at the hands of many such labour bosses.

To-day, however, it is generally recognized that, while the close co-operation of foremen and of the works manager is really essential for the satisfactory management of labour, the specialized personnel manager will not only be able to devote far more care and time to the selection of the right types of workers for particular jobs, but also will have a much wider and more comprehensive grasp of the works as a whole. He will thus be in a better position to advise the management as to the provision of various amenities, rest pauses and so on, which can suitably and beneficially be provided for all members of the staff.

Once he has actually been taken on, the new employee is usually interviewed by the personnel manager immediately before being put on to his particular job, with the object of familiarizing him generally about matters that will affect him in his relations with the firm and with his department. A personal introduction to his foreman and his immediate fellow-workers follows, and all is conducted in a friendly yet business-like atmosphere, which leaves him with the impression that his engagement is regarded as a matter of some con-

sequence and not simply as the addition of one more unit of man-power to the labour force of the works. He will probably be encouraged to see the personnel manager again from time to time, and efforts will be made to discover how he has fitted in with his new environment.

The wise personnel manager, too, will endeavour to apply a definite policy as regards the promotion of workers who display intelligence, ambition, and special skill. In this way loyalty to the firm and keenness on the job will be stimulated amongst employees. The promotion of employees is not, of course, a routine or simple matter and there are bound to be difficulties such as the emergence of individual jealousies; but, with an experienced and properly trained personnel manager to cope with them, they will usually be found to yield to sympathetic and human handling.

Since it is a part of the personnel manager's duties to be acquainted with official regulations affecting the physical conditions of work in the factory, he is usually also entrusted with the organization of any additional social, educational or welfare activities that he may be able to induce his firm to introduce for their employees' benefit. Such services will usually include arrangements for recognized periodical rest pauses for the workers, planned out according to proper psychological principles, so as to ensure that the minimum of fatigue is experienced and the maximum efficiency of work attained. Other amenities over which the personnel manager may be expected to exercise general supervision may range from canteens and sports grounds to musical and dramatic clubs, or even to workers' pensions or profit-sharing schemes.

There still remains to be considered the question of the personnel manager's handling of employees who have not given satisfaction in their work.

Some foremen of the old-fashioned type have been known to resent very keenly the loss of the right to dismiss such employees, and to argue that its removal can only result in undermining their authority over the workers. This contention, however, overlooks the fact that a good personnel manager will unhesitatingly back up a foreman's recommendation for the dismissal of a worker, if he feels really satisfied that the foreman himself is a reliable and responsible person and that the request that has been put forward does not infringe accepted principles of fairness. From the worker's point of view again, it is much more satisfactory to feel that, instead of the possibility of instant dismissal with no right of appeal, there will be careful and searching consideration given by an impartial personnel manager to any suggestion that his services should be dispensed with.

It is to be hoped that this very short and general account of the variety of functions coming under the head of labour management may serve to emphasize the almost superhuman responsibilities falling to the lot of a works manager in the absence of any specialized personnel department, and at the same time to indicate the importance of close and harmonious co-operation between him and the personnel manager where such an executive exists.

EXERCISE FOR PRACTICE

This exercise is based on the information given in the above lesson.

What special contribution does a personnel manager make to the welfare and efficiency of the labour force of a factory?

LESSON ELEVEN

REMUNERATION OF LABOUR

THE remuneration of workers is a matter which raises a great many interesting problems, both practical and academic. Here, however, we must confine ourselves to a brief description of the most usual methods of actual wage payment, since an understanding of the principles behind these must be regarded as part of the basic knowledge of a works manager.

To the two primary methods of wage payment familiar to the employee as time rates and piece rates, may be added two others which are usually known as premium bonus systems and efficiency systems. Payment by time rate, of course, simply means paying the worker so much for each unit of time (hour, day, or week) that he puts in at his work, while payment by piece rate refers to the system of paying him so much for each actual piece of work he produces or each unit of output he turns out.

Each of these two methods has its advantages and drawbacks. Payment by time rates will usually be found where quality of work is more important than quantity, and where the product does not lend itself to standardization, e.g. the work of mechanics doing repair jobs in a motor garage. Clearly, under this system, there is no incentive to the worker to increase or speed up production, and therefore supervision becomes an important factor.

With payment by piece rates, however, which is common in textile mills, coal mining and many engineering works, there is every encouragement for the worker to turn out the maximum amount of product in the shortest possible time. From this arises the danger of scamping the work or, on the other hand, of working so hard and fast that overstrain is experienced and nervous or physical fatigue sets in. There are other disadvantages of the method of payment according to piece rates; thus it is often very difficult to assess the exact basic piece rate in the first instance, or to revise it later in a manner that will appear fair to all concerned. However, on the whole, piece rates do usually lessen the need for close supervision, and it is generally true that the really good worker prefers them to payment by time rate.

Premium Bonus and Efficiency Systems

There are many kinds of premium bonus systems, but the principle behind each is to encourage the worker to save time on his work, and to share the value of the time so saved between him and his employer. The best known of these systems in this country are the Halsey, the Weir, and the Rowan systems, each having been named after its respective sponsor.

Under the Halsey system if a man, whose day rate was 1s. 9d. per hour, performed a five-hour job in four hours he would receive in addition to his 1s. 9d. a bonus calculated as follows, $\frac{1}{3}(5-4) \times 1/9 = 7d.$

Under the Weir system the bonus would be $\frac{1}{2}(5-4) \times 1/9 = 10\frac{1}{2}d.$, while under the Rowan it would work out at $\frac{4}{5}(5-4) \times 1/9 = 1/5$ approximately.

The Halsey system thus gives the worker a fixed one-third of the value of the time saved, the Weir system a fixed one-half, and the Rowan a variable proportion depending on the ratio of time taken to the time allowed (4 : 5 in the case of the example which is quoted above).

Efficiency systems of wage payment, or points systems as they are sometimes called, are claimed by their authors to avoid most of the drawbacks of the other methods of payment, to encourage the maintenance of a team spirit amongst the workers, and generally to provide the management with a more sensitive and efficient means of labour control. Efficiency and premium bonus systems are alike in so far as both involve in the first instance the determination of a basic rate, i.e. the payment to be made for the performance of an average worker at the given job. They differ when it comes to calculating the bonuses; for, while premium bonus systems take into account only the time saved by the employee, efficiency systems allot points or marks not only for this but also for good workmanship, punctuality and conscientiousness, and sometimes for the general efficiency of the whole department in which he works as well. Thus the worker is stimulated to take a wider interest in his firm's success, and the emergence of a team spirit in the works as a whole is encouraged.

A fundamental feature of all piece rate, premium bonus, and efficiency systems of payment is rate-setting, i.e. the process of determining in exactly what times workers paid at given rates should be expected to complete their tasks. Rate-setting has itself developed into a specialized job, and the old method of a foreman setting the time on the simple basis of his own judgment is gradually dying out. The modern rate-setter, therefore, is an expert with not merely a practical understanding of all the various machines and processes employed in the work, but also with a thorough training in time and motion analysis. This is, under modern methods of production, a necessary part of the scientific approach to elimination of unproductive working time. Thus, the rate-setter must be able to advise as to the best possible layout for each individual worker's tools and equipment as well as to the precise motions he should go through in order to perform his job with the least possible waste of energy.

EXERCISE FOR PRACTICE

This exercise is based on the information given in the above lesson.

Discuss the advantages and the disadvantages of time rates, piece rates and bonus system of wage payments.

LESSON TWELVE

COSTING : PURPOSE AND VALUE OF COST ACCOUNTS

IN the ordinary system of accounting, the merchant or manufacturer is able at the end of a trading period to find what profit or loss he has made by preparing trading and profit and loss accounts. There are, however, two disadvantages. First the system shows the total profit or loss attained, but does not show how it has been obtained or which lines have been most profitable. Thus it might be that certain goods were sold at a loss but that this fact was hidden by the profit on the sale of other goods. By having departmental accounts, this disadvantage is reduced to some extent since the profit or loss of each department can be ascertained. Similarly, where a merchant is selling certain types of articles such as tea, coffee, cocoa, it is possible by having

tabular accounts to calculate the profit or loss on each type separately.

The second disadvantage of the ordinary accounting system is that the profit or loss is not calculated until the end of the trading period. It is obvious that it is then too late to do anything about it. If, however, profits or losses were known at the end of each month, losses incurred at the beginning of the year might be offset by an increase of profits in later months due to alteration in methods of manufacture or of the sale of different articles.

Cost accounting, then, is an addition to the ordinary accounting system designed to remedy the above-mentioned defects. Ordinary book-keeping is used to determine the profit or loss over the period but in addition extra statistics and accounts are used, so that it is possible to ascertain how the profit is being made and, by means of monthly statements, to know the position throughout the year.

Cost accounting is therefore more suitable for manufacturers than for merchants who know what their goods cost at the time of purchase. The manufacturer having, by means of cost accounts, found the cost of each article he makes, can therefore fix the price at which to sell the article in order to make a definite profit. He has the requisite information to make exact tenders. He knows which lines are the most and which the least profitable. He can detect waste in the use of material and loss of time. He knows at any moment the cost and value of his stock and work in progress. He knows which processes are expensive and can compare the cost of manufacture by one process with that of another, or the cost of the same process at different periods but with different material or labour.

Systems of Cost Accounting

The system of cost accounting will differ according to the business and the type of goods manufactured. In collieries, for example, the cost of coal per ton will be required. In the breweries the cost of beer per barrel. Again, a builder will want to know the cost of each contract or job, but a car manufacturer will require the cost of each separate part so that, by addition, he can find the total cost of a car. Further, where the article manufactured passes through a series of processes, as in the chemical industry, the cost of each process will be required as well as the total cost.

Basic Elements of Cost

Although systems of cost accounting may vary, the basis of cost is always the same and may be classified as follows:

1 *Prime Cost*, made up of the following charges: (a) direct wages, (b) direct materials, (c) expenditure directly chargeable to the particular job, such as the hire of scaffolding or special machinery for the job.

2 *Oncost*, or that proportion of the overhead charges of running the business which must be charged to each job. These expenses are divided into: (a) *Works Oncost*, consisting of wages of firemen, timekeepers and storekeepers, salaries of works managers, rent, rates, lighting, power and heating of works, oil, tools, and upkeep of works, repairs and depreciation of works and machinery. (b) *Office Oncost*, consisting of office salaries, rent, rates, lighting and heating of offices, stationery, typewriters and other office supplies and equipment, telephone and legal expenses.

Weekly Time Sheet

WORKMAN'S NAME..... WEEK ENDING.....

WORKMAN'S No.....

TRADE.....

Job No.	Particulars of Job	F.	S.	M.	T.	W.	Th.	Hours			Rate	£	s.	d.
								Ord.	Over-time	Pay on				

Fig. 1. Weekly time sheet to show the number of hours worked on each job.

Daily Time Sheet

WORKMAN'S NAME..... DATE.....

WORKMAN'S No.....

Job No.	Particulars of Work Done and No. Made	Time Started	Time Ended	Hours			Rate	£	s.	d.
				Ord.	Over-time	Pay on				

Fig. 2. Daily time sheet, sometimes used in place of the weekly time sheet.

The total cost of making and selling the goods is found by adding to the cost of production all expenses connected with selling the goods, such as salaries and commission of salesmen, advertising, carriage on sales, rent, rates and upkeep of retail shops, and taxes on finished goods. If to the figure so obtained is added the profit, the selling price of goods can then be determined.

This exercise is based on the information given in the above lesson.

LESSON THIRTEEN

Weekly and Daily Time Sheets

In addition the workman must enter on a time sheet the jobs on which he is engaged and the amount of time taken on each. A weekly time sheet (Fig. 1)

[illegible]

Fig. 3. *Wages abstract, designed to show the total labour cost of each job.*

Job Card

ORDER No.....		DATE COMMENCED							
		DATE COMPLETED							
Work- man's No.	Description of Operation	Cost		Rate		Time Taken		Time Started	Time Finished
		s.	d.	s.	d.	Hrs.	Mins.		

Fig. 4. Job card designed to show the total labour cost of a particular job.

it is completed the job card shows the total labour cost of the job. In order to obtain accuracy, some firms install time recording machines inside the factory and the worker must then stamp the job card when he starts and finishes a job ; the clerical work is done by the office staff. (Fig. 4.)

Wages Book																			
Work- man's No.	Name	Trade	F.	S.	M.	T.	W.	Th.	Total Hours			Rate	Week ending.....						
									Time	Over- time	Pay on		Gross Wages			Deductions			
													Nat. Ins.	Int. Tax	Sun- dry	Net Amount Payable	Em- ployer's Share of Insurance		

Fig. 5. Wages book, prepared from the workmen's time sheets or job cards.

From workmen's time sheets or job cards, the wages book is prepared. A typical ruling is shown in Fig. 5.

It will be noticed that the week ends on Thursday evening in order to give the accountancy staff time to calculate the amounts and obtain the total from the bank. For purposes of costing, the gross wage column is the important one and not the column for net amount payable.

The employees' contributions for insurance have to be paid by the workmen, and the business is merely collecting it to save them the trouble of paying it individually. The employer's contribution to insurance is an expense of the business. It is usually apportioned and added to the total wage cost of each job, or it may be included in the oncost. Extra columns may be shown in the wages book to record whether the wages are paid for production and can be charged direct to a particular job, or whether they are paid for non-productive purposes such as erection of and repairs to machinery.

To avoid having extra columns, the payments may be grouped giving first the names of workmen whose wages can be charged direct to jobs and then the names of workmen engaged on the types of work chargeable as oncost.

EXERCISE FOR PRACTICE

This exercise is based on the information given in the above lesson.

Describe the operations which precede the preparation of a wages book.

LESSON FOURTEEN

MATERIALS IN A COSTING SYSTEM

MATERIAL used may have been purchased directly for a job or it may have been requisitioned from the stores. Stores in this sense refers to materials and articles that are to be used for the actual making of goods, as opposed to stock which usually means finished manufactured goods. The

Purchases Book												
Date	Supplier	B.L. Folio	Stores Purchased for Direct Jobs				Stores Purchased for Stock					
			Job No.	Cost Ledger Folio	£	s.	d.		Stores Ledger Folio	£	s.	d.

Fig. 6. *Ruling of a purchases book, which records cost of all materials bought.*

Purchases Requisition

REQUISITION No.....		DATE.....		
VENDOR'S NAME.....		ADDRESS		
<i>Date Required</i>	<i>Quantity Required</i>	<i>Description of Material</i>	<i>Code No.</i>	<i>Order No.</i>
REQUISITIONED BY..... FOR..... APPROVED.....				

Fig. 7. Requisition filled in by the storekeeper when he needs further stores.

former method presents no difficulty, for, if an analysed purchases book (Fig. 6) is used, the cost can be posted direct to the cost ledger.

Material used out of stores presents more difficulty, and the greatest care must be taken or each job will not be charged with the correct amount. Hence the need for careful and accurate stores records.

The storekeeper has to account for all material received and issued: he is not allowed to purchase goods, but obtains them by requisitioning. He fills in a purchases requisition form for any stores he requires and sends it to the office clerk who orders the goods if the requisition is approved (Fig. 7).

Many other goods are ordered by the office, and the essential thing is that all goods coming into the stores must be carefully checked. A common practice is not to supply the person checking with the quantities but to require him to make a list, which can then be compared with the invoice by the office staff. A stores received book (Fig. 8) is used to record particulars of goods received into the store. When stores which have previously been issued are received back into store, an entry is made in the usual way, but the number of the form used for the purpose is entered in the column ordinarily used for the invoice number.

No workman is ever allowed to take materials out of the store without presenting a stores requisition form (Fig. 9) giving particulars of the goods required and the number of the job on which he is working. This form must be signed by the foreman, either at the time or before the end of the day. The storekeeper issues the material and retains the form, which he numbers

Materials Returned To Store

MATERIAL RETURNED FROM JOB No..... DATE.....

Quantity	Goods	Code No.	Rate	£	s.	d.	Sales Ledger Folio

Fig. 10. To facilitate accurate costing, materials drawn in excess of actual requirements must be entered on this form and returned to the store.

Goods Transferred Form

MATERIAL OBTAINED FROM JOB No..... DATE.....

USED ON JOB No.....

Quantity	Goods	Code No.	Rate	£	s.	d.	Folio

Fig. 11. A goods transferred form is used where distance from the store makes the return of surplus materials impracticable ; the surplus is used on another job.

From the stores received and stores issued books the stores ledger is prepared. A separate card (Fig. 13) is used for each class of material, showing on the debit side the stores received and on the credit side the stores issued. Subtraction of the credit from the debit will then give the quantity and value of the goods in store, and sometimes there are columns on the right hand side for recording the balance. The quantity of goods received is obtained from the stores received book, but the value is obtained from the invoices. In order that the full cost of the goods should be charged to the job, therefore, it is essential that all expenses of carriage inwards and duty should be entered.

Bin Card							
No. of Bin.....			Situation.....			Maximum Quantity.....	
Description of Material.....						Minimum Quantity.....	
Code No. of Material.....							
<i>Stores Received</i>			<i>Stores Issued</i>			<i>Balance</i>	
Date	From	Quantity	Date	For	Quantity	Date	Quantity

Fig. 14. A bin card as above is kept in the stores for each kind of article.

has a column for each job, and any goods supplied to that job are copied from the requisitions in black ink while any materials returned to the store are written in red ink. The balance then shows the total goods supplied to each job, and a summary is usually prepared for posting purposes.

EXERCISE FOR PRACTICE

This exercise is based on the information given in the above lesson.

From what sources is the information obtained to complete the stores ledger ?

LESSON FIFTEEN

HOW TO CHARGE OVERHEADS

WE shall now consider how the overhead charges can be apportioned to the various jobs. It can be seen that if the works turns out 1,000 similar jobs in a year and if the overhead expenses amount to £500, all that is necessary is to add 10s. to each job. Usually, however, the jobs are not identical so the matter is not so simple. Further, the total of the overheads is not known until the end of the year, whereas one of the objects of cost accounts is to be able to work out the cost month by month. An estimate is therefore usually made of what the overheads will be. The records of previous years are examined, and the percentage borne by overheads to wages or to the prime cost is calculated. This percentage is used for the current year and later adjusted if it is found to be incorrect.

There are various methods of charging oncost. The first method is to find the percentage which overheads bear to wages and add this percentage to the prime cost. This gives good results, except where there are big differences in the rates of wages paid and in the types of work, and where the amount of wages is small in relation to the cost of material. Other methods of basing the percentage on prime cost or on the cost of material are useful only if the material used is uniform ; if half of the material is expensive and half cheap, it is obviously unfair to charge most of the oncost to the expensive material. Sometimes oncost is based upon the total direct-labour hours. This is a satisfactory method if the machinery used is similar but it makes no distinction between expensive and cheap machines. When different types of machines are employed, the machine hour method is useful. The expense of running the machine for a year, including depreciation and rent of the space it occupies, is ascertained and the oncost is based on this. Where necessary, separate oncost percentages are worked out for different departments. Further, it is usual to charge the works oncost separately from the office oncost. The works oncost is added as a percentage, calculated according to one of the above methods, to the prime cost and this gives the works cost. To this works cost the office oncost is then added as a percentage.

EXERCISE FOR PRACTICE

This exercise is based on the information given in the above lesson.

What is oncost ? How is it calculated ?

SELF-TESTING EXERCISES

The answers to the exercises are on pages 567-569.

Exercise 1

Using the following figures, show how the works oncost should be added in the following methods :

(a) Direct labour cost method ; (b) raw material method ; (c) direct labour hours method ; (d) machine hours method ; (e) prime cost method ; (f) production units method :

Direct labour £9,200 ; raw material £50,000 ; works overheads £7,000 ; labour hours 100,000 ; machine hours 40,000 ; articles produced 60,000.

Exercise 2

A manufacturing firm purchases two similar machines at £1,200 each. You are required to work out the total machine hour rate for each machine, exclusive of labour and materials used, based upon the following facts and figures :

The machines will be worth £200 each in ten years' time, and depreciation on the fixed method is to be allowed. The machines will be used for 2,000 hours per year and they will each require 4 units of power per hour at 1d. a unit. Repairs are estimated at £25 each per annum. The overhead charges attributable to each machine are £450. The machines together occupy one-tenth of the floor space and they are to bear their respective proportion of rent, rates, and water, lighting and heating. The rent, etc., of the works amounts to £766 8s. 4d., and the lighting and heating to £400.

Exercise 3

From the following figures of the Arscott Manufacturing Co., prepare a cost statement to show what percentage of the total cost of goods manufactured is based on (a) factory cost of production ; (b) cost of management ; (c) cost of selling.

	£		£
Stocks, January 1 :		Manufacturing wages . . .	31,000
Raw materials . . .	11,400	Purchases of raw material . .	18,500
Partly manufactured goods . . .	12,350	Carriage on above . . .	550
Oncost on above . . .	2,992	Factory oncost :	
Stocks December 31 :		Rent, rates, taxes . . .	3,412
Raw materials . . .	8,250	Fuel and power . . .	3,963
Partly manufactured goods . . .	14,400	Wages and salaries . . .	2,589
Oncost on above . . .	3,408	Repairs, renewals, depreciation . . .	2,677
		Proportion of management costs . . .	14,540
		Selling costs . . .	11,235

Exercise 4

A cycle manufacturing company secures a contract which will necessitate their purchasing 10,000 cycle chains.

Describe the steps necessary in ordering and receiving the chains.

Exercise 5

A manufacturing company is proposing to put on the market an improved model of their product, and you are asked to suggest a selling price which will cover the oncost and ensure the same proportion of profit on sales as before. The material in the new model will cost £11 and the wages £6.

The following figures relating to the previous year are taken from the books :

	£		£
Stock of Raw Materials, January 1	8,400	Heat, Light and Power for Office	100
Stock of Raw Materials, December 31	8,800	Wages and Salaries of Works	750
Purchases of Raw Materials	12,500	Wages and Salaries of Office	1,200
Manufacturing Wages	6,600	Repairs and Depreciation, Works	1,130
Rent and Rates of Works	970	Office Expenses	450
Rent and Rates of Office	200	Selling Expenses	800
Heat, Light and Power for Works	450	Sales	27,500

ANSWERS TO SELF-TESTING EXERCISES**Exercise 1**

- (a) $\frac{£7,000 \times 100}{£9,200} = 76\%$ (d) $\frac{£7,000}{40,000} = 35.6d. \text{ per machine hour.}$
- (b) $\frac{£7,000 \times 100}{£50,000} = 14\%$ (e) $\frac{£7,000 \times 100}{£9,200 + £50,000} = 11.82\%$
- (c) $\frac{£7,000}{100,000} = 1s. 4.8d. \text{ per labour hour.}$ (f) $\frac{£7,000}{60,000} = 2s. 4d. \text{ each}$

Exercise 2

Fixed Charges		£	s.	d.
Rent, rates, water, one-tenth of	£766 8s. 4d.	=	76	12 10
Lighting and heating, one-tenth of £400		=	40	0 0
Overhead charges		=	900	0 0
Fixed charge for the two machines		=	1,016	12 10
Hourly rate per machine	$\frac{£1,016.6416}{2,000 \times 2}$	=	£0.25416 = 5s. 1d.	

Other Charges

Repairs	$\frac{£25}{2,000}$	= 0s. 3d.
Depreciation	$\frac{£(1,200 - 200)}{10 \times 2,000}$	= 1s. 0d.
Power, 4 units at 1d.		= 0s. 4d.
Total machine hour rate		<u>6s. 8d.</u>

Exercise 3**Commencing stocks :**

	£	s.	d.	£	s.	d.
Raw materials				11,400	0	0
Partly manufactured goods				12,350	0	0
Purchases of raw materials				18,500	0	0
Less Closing Stocks :				42,250	0	0
Raw materials	8,250	0	0			
Partly manufactured goods	14,400	0	0	22,650	0	0
Manufacturing wages				19,600	0	0
Carriage on purchases				31,000	0	0
				550	0	0
PRIME COST OF PRODUCTION				51,150	0	0
Add Factory Oncost						
Rent, rates, taxes	3,412	0	0			
Fuel, power	3,963	0	0			
Wages and salaries	2,589	0	0			
Repairs, renewals, and depreciation	2,677	0	0			
	12,641	0	0			
Plus proportion on partly manufactured goods	2,992	0	0			
	15,633	0	0			
Less proportion on partly manufactured goods	3,408	0	0	12,225	0	0
FACTORY COST OF PRODUCTION			71.1%	63,375	0	0
Proportion of management costs			16.3%	14,540	0	0
TOTAL COST OF PRODUCTION				77,915	0	0
Selling costs			12.6%	11,235	0	0
TOTAL COST OF PRODUCTION AND SELLING			100%	89,150	0	0

Exercise 4

The chains will be ordered by the office, for delivery either immediately or at agreed dates. A copy of the order will be given to the gate-keeper as his authority for receiving the goods, and one copy to the costing office. When the goods arrive the gate-keeper will enter particulars in a goods inwards book and deliver them to the storekeeper together with his copy of the order and the delivery note which accompanies the goods. The storekeeper will check the goods, store them and enter particulars on the appropriate bin card. He will initial the delivery note and the copy of the order, and forward them to the office. Here, they will be compared with the invoice, which, if correct, will be passed to the cost office. In the cost office the chains will be entered in a stores received book and in the stores ledger.

Exercise 5

Stock of raw materials, January 1, 194-

Add purchases

Less stock at close, December 31, 194-

Materials used

Manufacturing Wages

PRIME COST

Works Expenses :

Rent and rates

Heat, light and power

Wages and salaries

Repairs and depreciation

WORKS COST

Expenses of Administration and Selling:

Rent and rates of office

Heat and light of office

Wages and salaries

Office expenses

Selling expenses

TOTAL COST OF PRODUCTION AND

SELLING

Selling Price

Less total cost of production and selling

Profit, 10% of sales

Works expenses are 50% of wages

Expenses of administration and sale are
12½% of works cost

New Model : Materials

Wages

PRIME COST

Works expenses, 50% of wages

WORKS COST

Administration and selling expenses,
12½%

Total cost of manufacture and sale

Add profit, 10% of selling price

SUGGESTED PRICE

£	s.	d.	£	s.	d.
8,400	0	0			
12,500	0	0			
20,900	0	0			
8,800	0	0			
			12,100	0	0
			6,600	0	0
			18,700	0	0
970	0	0			
450	0	0			
750	0	0			
1,130	0	0	3,300	0	0
			22,000	0	0
200	0	0			
100	0	0			
1,200	0	0			
450	0	0			
800	0	0	2,750	0	0
			24,750	0	0
			27,500	0	0
			24,750	0	0
			2,750	0	0
$3,300 \times 100$					
6,600					
$2,750 \times 100$					
22,000					
11	0	0			
6	0	0			
17	0	0			
3	0	0			
20	0	0			
2	10	0			
22	10	0			
2	10	0			
25	0	0			

SECTION XI

MERCANTILE LAW

LESSON ONE

WHAT IS MERCANTILE LAW ?

MERCANTILE law means those portions of the general law of the realm which particularly affect the transactions of people engaged in business. It is not separate from the general law, but part of it, and is administered in the same courts. Its sources are :

1. *Common Law*, often called the unwritten law of England, is the vast body of traditional law of the land, dating from Plantagenet days.
2. *Equity*, administered in special courts, was to help those persons to whom common law was not available.

Since 1875 these two systems have to all intents and purposes been fused.

3. *Statutes, or Acts of Parliament*. Parliament passes many laws, and we are all bound by them ; the courts administer them, and the police detect infractions. A practice which has grown more common of late, owing to the complexity of modern life, is for Parliament to make a general law, and allow the minister responsible to make regulations, which, with some necessary safeguards, have the force of laws.

Statutes are specific and more recent, and consequently are superior to both equity and common law, and where there is any conflict the statute prevails.

4. *Law Merchant* (*Lex mercatoris*) embodied the usages of merchants, who devised such expedients as bills of exchange and cheques, and usually laws were enacted later giving official sanction to what was an established custom. But commercial life is always progressing and more customs of merchants are constantly being recognized in the courts, before statutes are framed to make them explicit.

5. *Case Law*. No Act of Parliament can foresee every trifling difficulty or difference that will arise later, hence judges have to decide any knotty point. Generally this establishes a *precedent*, and later judges refer to it for guidance. It therefore has the force of a law, unless circumstances, or public opinion, cause it to be altered.

Obviously no single book can contain all the law referring to business, but this section of the book contains the general principles of those parts of the law which are of especial interest.

One point that must be mentioned is that as Scotland was for hundreds of years a separate kingdom it still has a legal system of its own, and many statutes do not apply at all, or apply only in part, to Scotland.

The Law of Contract

If Peter B invited you to supper and when you arrived he had forgotten all about it, you would have a grievance ; but you could not take him to court and claim the price of a supper. Because, when you made the agreement, neither you nor Peter intended that the help of the law should be invoked

to enforce the agreement. Sometimes when you make an arrangement with someone else, you both intend that the agreement shall be binding and that, if either of you refuses to do what you agreed, then the other person can ask the Law Court to enforce the agreement. In such a case you have made a contract. Every agreement that is enforceable at law is a contract. Most people enter into contracts each day. Every time you buy goods, every time you employ someone to do work for you, you are entering into a contract.

Offer and Acceptance. If we look at any contract we find that it consists of two things : an offer made by one person and an acceptance of that offer by the other person. In every contract then, we have an offer by one party and an acceptance of the offer by the other party. Sometimes the arrangements are so complicated that it is difficult to decide which was the offer and which the acceptance ; so we shall consider what an offer really is.

An offer when accepted becomes a contract, but sometimes a person does not make an offer for you to accept, but instead invites you to make an offer, which he can accept or reject. When a firm advertises for tenders they are not making an offer ; they are inviting you to state the price for which you are willing to do the work. If they agree upon your price they accept your offer and there is a binding contract.

A company prospectus invites you to subscribe for shares but there is no guarantee that you will get the shares. The company has not offered you the shares. When you apply for ten shares you have made an offer and if the company agrees to allot you ten shares they accept your offer. Usually the price ticket on goods displayed in a shop window is an intimation that you may go into the shop and offer to buy the goods at that price. The shopkeeper can accept your offer or he can reject it.

Offers are normally made to a definite party who alone can accept. Sometimes an offer is made to the public and any member of the public can accept the offer. A well known or leading case illustrates this point.

Carlill v. Carbolic Smoke Ball Co., 1893. The Company in their advertisement offered £100 to any person who contracted influenza after using one of their smoke-balls. Mrs. Carlill had purchased one and used it according to the directions but caught influenza. Mrs. Carlill claimed the £100 and won her case.

An offer can contain conditions such as the time within which it must be accepted but it cannot prescribe the time within which it must be refused and state that unless it is refused before a certain time there will be a contract.

An offer can be revoked, that means withdrawn, at any time before it is accepted but the person to whom the offer was made has to be told of the revocation. Until he is told, he can accept the offer. If the person making the offer promises to keep it open for a certain time, he can nevertheless withdraw his offer before that time. If, however, the person to whom the offer is made pays something to have the offer kept open until a certain date, the offer cannot be withdrawn before that date. That is what happens when an option is given. A person is offered certain property at a certain price. Since he cannot decide immediately, he pays for an option on the property and so any time before the end of the period he has the right to buy the property.

If no specified time was given within which the offer can be accepted, it is considered open for a reasonable time. At the end of a reasonable time,

taking into consideration all the facts, the offer automatically comes to an end. *Ramsgate Hotel Co. v. Montefiore*, 1866. Montefiore applied for some shares. Five months later they were allotted to him. He refused to have the shares and the court decided in his favour.

An offer comes to an end if a counter offer is made. Thus if Tom A offers an article to Harry B for £5 and B replies, "I'll give you £4," B has really refused A's offer. If Tom A says, "No I won't take £4," he has refused the counter offer. If B then says, "Well I'll give you the £5," B is not accepting an offer because the offer has already come to an end; he is really making a new offer, which Tom A may or may not accept. If however, when A offered the article for £5, Harry B had replied "Would you be prepared to take £4?," he has merely made an inquiry and not made a counter offer. Hence if A refuses to consider £4, B can accept the original offer.

An offer comes to an end if either of the parties dies before acceptance. If the person who makes the offer dies, his offer comes to an end at that moment. If the other party later accepts without knowing of the death, his acceptance is too late and no contract is made.

Acceptance. Sometimes all that is necessary to accept an offer is to do something. Thus when Mrs. Carlill caught influenza after using the smoke ball she had done everything necessary for accepting the offer. There was no need for her to tell the company that she intended to accept their offer, she merely had to tell them when she had done what was necessary to accept the offer. Hence if an offer can be accepted by doing something, the moment that is done there is an acceptance. From that moment there is a binding contract, even though the person who made the offer is not told until later.

In all other cases, an offer is accepted by the acceptor telling the person who made the offer that he accepts. He must tell the offerer that he accepts. If Paul T offered goods to Simon B for £10, Simon must tell Paul he agrees. It is no use Simon saying aloud in his own home "I accept the offer". The contract starts when Paul is told. Hence if Simon sends his office boy with a letter of acceptance, the contract starts from when Paul T gets the letter. It does not start from the time Simon gives the letter to his office boy; which is perfectly understandable for Simon could run after the boy and recover the letter. Up to the moment Paul gets the letter he can withdraw his offer by 'phoning Simon B. On the other hand, if the offer is sent by post, the acceptance starts from the moment the letter passes from Simon's control to that of the postal authorities, and not from the time the letter is delivered. Both offer and revocation have to reach the other party before they are of any effect, whereas acceptance is complete from the moment the letter is posted. The post-office becomes the agent of the one who first communicates to the other through the post.

When a person accepts an offer he must accept the offer without trying to attach any conditions. If he tries to accept part of the offer, or makes any sort of qualifying statement he is really making a counter offer. It is therefore important that all the terms of the offer must be mentioned. We sometimes see a firm's notepaper with the conditions on which they trade printed at the bottom. If an offer is typed on such paper, the person who receives it is bound by these conditions. He cannot accept the typewritten part without the printed. Such a firm has done its best to bring all the conditions before

the notice of the person with whom it is dealing, and so the conditions form part of the contract.

Similarly when we buy a railway ticket or bus ticket we are accepting the offer of the railway to carry us. If certain conditions are printed on the ticket or if it refers us to conditions printed in the company's time tables, we are bound by those conditions. It must be remembered that a receipt for money cannot affect the contract which has already been made. Consequently conditions printed on a receipt do not affect the contract. Thus if at the sea-side or park you are offered a deck chair, you accept the offer by sitting on the deck chair. There is a contract and, as we shall see later, the deck chair must be fit for the purpose. If the chair collapses, you have a case against the hirer of the chair. If you were told *when you were offered the chair* that the hirer would not be liable for accidents, the condition was part of the offer and binding upon you. But if there was such a statement on the receipt you get when you pay your 2d., you are not bound by the statement as it was not part of the offer.

SELF-TESTING QUESTIONS

One morning, by letter post, Peter J offered to sell Stanley G a bicycle for £10. At 3 p.m. the same day he sent a telegram to G revoking his offer and the telegram reached G at 4 o'clock. Meantime Stanley G had put a letter of acceptance in the 3.30 p.m. collection and the letter was delivered the following morning. Was there a binding contract? Would it have made any difference if the letter got lost in the post?

The answers to the questions are on page 619.

LESSON TWO

CONSIDERATION

EVERY agreement enforceable at law is a contract. In order to be enforceable a contract must have *consideration*, unless it is in the form of a deed, which will be described later.

If Paul A promises to do some work for you if you give him £5 now, the £5 is the consideration. In other words you give A £5 in consideration of his promising to do some work for you. If Paul A promises to do some work for you gratuitously, that is without payment, there is no consideration and therefore the arrangement is not enforceable at law. You could not expect the help of the law to enforce such a promise. The only case in which the law will enforce payment of a gift or of a promise to do work without payment is when the promise is made in a deed. The law will not inquire if the above payment of £5 was sufficient in view of the work that is to be done : provided that there is some consideration the contract can be enforced.

The consideration must be definite. If a person says, " You can pay me what the job is worth ", that does not amount to consideration. It is too vague. Of course we frequently enter into contracts without discussing the consideration. Thus you may take your shoes to be repaired and not inquire the price. In such cases the consideration is implied ; you would expect to pay a price which is generally accepted as reasonable.

The consideration must be real. If you promise to do something you are bound to do that is not consideration. Thus a person who receives a subpoena to attend court as a witness is legally bound to attend court. If previously he had been promised £5 to attend he cannot claim the money, as the promise was not supported by consideration. Similarly, there is an absence of real consideration when a person accepts a smaller amount than the total debt. Thus if C accepts £40 from D in settlement of a debt of £50 there is no real consideration for his agreement to take less than the full amount; later he can claim the balance of £10. If the debt was not due until later it is entirely different. If D pays £40 now instead of £50 in six months' time there is real consideration, namely the early payment.

When goods have been delivered and paid for, the contract is past, and any promise made later regarding this contract is merely supported by a past consideration. The rule is that a past consideration will not support a subsequent promise. So the promise is not binding unless made in deed form.

Roscorla v. Thomas, 1842 A sold a horse to B. After the sale, A guaranteed that the horse was free from vice. It was vicious. It was held that B had no remedy as the consideration was a past one. If A had given the guarantee at the time of the sale it would have been supported by a present consideration, namely the price, and would have been enforceable.

Where one person asks another to do something for him gratuitously and then later promises to pay a certain amount he can be held to his promise. This resembles a promise based on a past consideration, but the law looks upon it as though the parties had agreed upon an unspecified amount, and that later the amount has been fixed by the person asking for the work to be done.

Only the person from whom the consideration moves can sue on a contract. Suppose Smith and Jones agreed that they would each give young Smith and Bessie Jones £100 as a wedding present, the contract was between Smith and Jones. Either could sue the other if he failed to pay the money when the young couple got married. But young Smith could not sue his father-in-law, as he was not a party to the contract.

Dunlop Pneumatic Tyre Co., Ltd. v. Selfridge and Co., Ltd., 1915 The Dunlop Co. sold tyres to Dew on condition that he would sell none below list prices, and would obtain a similar agreement from those to whom he sold tyres. Dew sold some to Selfridge and Co., Ltd., and obtained the required agreement from them. They sold a tyre below list price. It was held that Dunlop Co., Ltd., could not claim, as there was no contract, and no consideration moving between them and Selfridge and Co., Ltd.

A contract cannot be supported by consideration which is illegal. Thus if you promise to pay a man £5 to break in your neighbour's house and muffle the wireless set, he could not legally claim the money.

If a person has paid money on a consideration which has failed he can recover his money. Thus if you apply for shares and they are not allotted to you, you are entitled to a refund of money you sent on application.

SELF-TESTING QUESTION

Read through the case of *Dunlop v. Selfridge*. Why is this mentioned in the lesson on consideration?

The answer to the question is on page 619.

LESSON THREE

TYPES OF CONTRACT

THERE are three types of contracts: contracts of record, contracts by deed and simple contracts.

Contracts of Record. These are entered into before a court of justice. If James P loses his action and judgment is given that he must pay Robert T £100, the judgment of the court constitutes a contract. If Fred R enters into written agreement with the court that he will appear on a certain day or, it may be, not annoy a certain person for twelve months, and that if he fails to do what he has agreed, he will pay £50 into court, that is known as a *recognizance*. The most common form of recognizance is that of "bail" in which one person becomes bail that his friend will appear to take his trial.

Contracts by Deed. At one time all contracts were entered into by deed. This is a formal document which has to be signed, sealed and delivered. Nowadays the seal is probably merely a wafer and the person delivering may put his finger on the deed and say, "I deliver this as my act and deed," or he may hand the deed to the other party. This delivery is important because the deed dates from the time of delivery and not from when it was prepared. Making a deed is such a formal affair that no consideration need be stated except in contracts of restraint of trade and no statements can be altered by explaining them. Whereas no action can be taken to enforce a simple contract after six years, action can be taken to enforce a contract by deed up to twelve years. If a simple contract is later made into a deed all the terms must be mentioned, for the simple contract becomes "dead" and only terms in the deed are part of the contract. A deed which is delivered subject to a condition is called an *escrow* and does not take effect until the condition is fulfilled.

Certain contracts must always be made by deed, such as the transfer or mortgage of a British ship or of any share therein, leases of more than three years, contracts without consideration, such as the promise of a gift, important contracts of a non-trading corporation, such as the Wimbledon Corporation or a Rural District Council. Public companies such as gas and electricity companies and railway companies are usually formed with their own Act, which is based on the Companies Clauses Act of 1845: transfers of share in companies governed by the 1845 Act must be by deed. Most companies are formed under the 1929 Companies Act; their transfers do not need to be by deed unless their Articles of Association specially require that they should be by deed.

Simple Contracts. Any contract not under seal and not entered into before the court is a simple contract. Usually it is either in writing or may be made verbally and a written contract has no superiority over an oral one except that it is more easy to prove. In the above, the terms of the contract have been spoken or written at the time the contract was made; but in certain cases this is not so, and the law recognizes that there is a contract even though there has been no agreement between the parties. Thus if you have paid an account and later find there is a wrong addition on the bill and that you have been overcharged, you are entitled to recover the extra amount. This is known as an implied contract. Similarly if you were compelled by law to pay an amount

someone else ought to have paid, there is an implied contract that the latter will repay you.

Usually a verbal contract is as effective as a written one, but there are certain contracts which must be in writing and stamped. Cheques, promissory notes and bills of exchange, hire-purchase contracts and contracts with moneylenders are familiar examples. Contracts of marine insurance must be in writing and transfers of shares in companies which do not require transfer by deed. Again supposing Patrick T owed you £20: at the end of six years he still owes you the money, but you cannot take him to court to enforce payment because the debt is what is known as statute barred. If, after the six years have elapsed, Patrick T promises to pay, you can once more claim the money at court provided that his promise is in writing.

Certain contracts do not need to be written out properly and stamped but there must be some written evidence to show details of the contract or otherwise the contract is not enforceable. The written evidence may be in several documents because a written contract is not required, but merely evidence of a contract. Further, it does not need to be written at the time the contract is made, but may be written later. Thus, supposing Richard D agreed to buy a radiogram from Albert R for £26. Richard pays nothing on account and it is agreed between them that Albert should buy and fit a new valve, before handing over the set. In such a case, according to the Sale of Goods Act, which we shall study later, there must be some written evidence to support the contract. If before taking the radiogram, Richard tells Albert that he has changed his mind, Albert R can do nothing about it, because he has no written evidence. Now suppose Richard writes a letter to Albert somewhat as follows: "I have changed my mind about buying the radiogram. I think £26 is too much for it and a friend tells me Smith's radios are not too reliable Richard D." This note is sufficient written evidence and it contains all the necessary points. It describes the article, a Smith Radiogram, sufficiently clearly to identify it; it mentions the price £26; it is signed by Richard D; and presumably has Albert's name either on the letter or on the envelope.

The Statute of Frauds, 1677, gives five cases in which written evidence is necessary. The first concerns special contracts entered into by an executor or an administrator to pay a debt of the deceased out of his own money. An executor is a person who is appointed in a will to divide out the property of the deceased; if there is no will the person who performs a similar function is known as an administrator. The duty of an executor or administrator is to pay the debts of the deceased, but he is not liable for the debts beyond the amount of the assets which come into his hands. If he promises to pay the remainder of the debts, the promise is not enforceable without some written evidence to support it.

Contracts of Guarantee afford another example. If a person guarantees to pay the debts of his friend provided the latter does not pay, he can be held to his promise, but only if he has put something in writing to that effect.

Contracts in consideration of marriage, that is marriage settlements, come within this section. An agreement which consists of a mutual promise to marry does not require written evidence to support it.

Contracts for the sale of land or any interest in land such as leases, have to

be supported by written evidence. Such contracts are now governed by the Law of Property Act, 1925, which has re-enacted the provision in the Statute of Frauds that written evidence is necessary. The agreement to sell must not be confused with the actual conveyance of the land, which is later made by deed.

Contracts which are not to be performed within the space of one year from the time of making must be evidenced in writing. This applies to contracts in which neither party can complete his share within twelve months. It applies to contracts which can be terminated within a year, but which cannot be fully carried out within a year. Thus, if Henry P is appointed for three years, but may resign at any time on giving three months' notice, written evidence is necessary. It does not apply to contracts which are to be performed by the other party within one year. Thus in one case a tenant agreed to pay an increased rent for the remainder of his lease if the landlord would do certain repairs; it was held that no written evidence was necessary. It does not apply to contracts which can be performed within one year, although they may not be completed within that time.

Peter v. Compton, 1694. Compton promised to pay Peter 1,000 guineas when he got married, provided he gave him one guinea at that time. Peter paid the guinea. Two years later he got married and claimed the 1,000 guineas. Compton based his defence on the absence of written evidence but lost his case and had to pay.

SELF-TESTING QUESTION

John Brown writes, "I am sorry that I cannot pay you the money that I borrowed from you five years ago, but I will make every effort to do so."

Three years pass, but the debt is not repaid. Can the creditor sue successfully?

The answer to the question is on page 619.

LESSON FOUR

CAPACITY TO CONTRACT

WITH a few exceptions, dealt with below, every person normally resident in this country has the right to enter into contracts, to enforce the contracts with the help of the law, and to be bound by the contracts.

Contracts with Aliens. An alien is a foreigner who has not been naturalized. In peace time he is capable of entering into any contract except a contract to purchase shares in a British ship. In time of war, an alien who owes allegiance to an enemy country is known as an alien enemy. He cannot enter into a contract with a British subject during the war, and any contract he makes is void, that means invalid or not binding.

Whether a person is an alien enemy depends not on his nationality but upon the place where he carries on business. If the alien enemy is resident in this country and has obtained a licence of the Crown to trade, he may enter into contracts. An alien enemy may be sued and if sued can defend the case. He cannot enforce contracts made before the outbreak of war: if neither side has completed his share, the contract comes to an end: if one side has done the

work or delivered the goods, the contract is held over for settlement at the end of the war.

Foreign sovereigns and ambassadors resident in Britain may enter into contracts and enforce them but they cannot be sued unless they voluntarily submit to the jurisdiction of the court.

Contracts with Infants. An infant is a person who has not attained the age of twenty-one.

Certain contracts with infants are binding. Contracts for education, apprenticeship and service are binding on the infant, provided the contract is reasonable and for the infant's benefit. Contracts for necessities are binding provided the price is reasonable. Necessaries include food, clothing, education and anything suitable for the infant's station in life. The person who supplied the goods has to prove that the goods were suitable to the infant's station and that they were necessary at the time they were sold and delivered to him, in other words that the infant was not already over supplied with such goods.

Nash v. Inman, 1908. Nash, a tailor, sold to Inman, a Cambridge undergraduate, clothes to the value of £150 including eleven fancy waist-coats. In the court, the father proved that his son was an infant. Nash proved that the goods were suitable for Inman's condition in life, but lost his case and the subsequent appeal because he failed to prove also that the goods were necessary at the time of sale and delivery.

Where an infant enters into a contract to take shares in a company or to become a partner or to lease property or enter into a contract of marriage settlement, the contract is binding unless the infant repudiates it within a reasonable time of becoming twenty-one. Thus, if any infant holds shares which are not fully paid up, he cannot be compelled to pay up the remainder, but supposing he accepts a dividend after coming of age or goes to a meeting of the company and votes, he cannot then avoid the contract. Although the infant who holds partly paid shares can give up the shares at any time during his infancy, he cannot recover the money he has paid, unless the shares never were of any value.

Certain contracts with infants are absolutely void. If an infant borrows money from a moneylender the contract is void and the money cannot be recovered. Even if after he comes of age the infant promises to pay for the loan, the promise is void. Similarly if an infant obtains goods which are not necessities the contract is void, and no action can be taken on a promise to pay for them made after he becomes of age. If the infant obtains the loan by misrepresenting his age he cannot be sued on the contract. Normally an infant is liable for torts, that is for any wrongful act he commits, but where the tort is connected with a void contract as in the above case, he cannot be sued on the tort. If he could be sued for misrepresenting his age, it would be an indirect method of enforcing a void contract.

Contracts with Married Women. At one time a man and wife after marriage were one person: the husband took over all her possessions and any to which she became entitled after marriage, but was liable for all her contracts and debts. This was not satisfactory and various evasions and alterations took place. In order to prevent her husband from getting the capital, a father would tie up his daughter's possessions, so that she could obtain the interest but not touch the capital. This was known as "restraint on anticipation."

Since the Law Reform (Married Women and Tortfeasers) Act was passed in 1935, a married woman has the same power as a single woman to acquire, hold and dispose of property, to enter into contracts, to be liable for torts, contracts and debts and she can be made bankrupt. Property may no longer be left to a married woman subject to restraint on anticipation.

A husband is not now liable for his wife's contracts and debts. If the wife acts as agent for her husband the latter is liable: thus if she buys groceries for the home the husband is liable.

Contracts with Persons of Unsound Mind and Drunkards. These contracts are perfectly binding unless the person of unsound mind or the drunkard seeks to set aside the contract. To do this he has to prove that at the time he entered into the contract he was in such a state that he did not know what he was doing and secondly that the other party knew of his condition. A contract becomes binding if the insane person or the drunkard ratifies it when later he becomes normal. Such a contract is termed voidable. Where the contract is for the supply of necessities at a reasonable price it is binding.

Contracts with Corporations. A corporation is an artificial body distinct from the members composing that body. Because of this fact, its contracts, apart from trivial and routine ones, are always made by deed and sealed with the Seal of the Corporation. It may appoint a person by deed to carry out its contracts; the important thing is that the contracts must be the ones that the corporation has the power to enter into. Whether it has the power depends on its constitution or its objects clause, and it is usually considered that a company has the right to undertake anything incidental to the carrying out of its objects. All other contracts are ultra vires, that is outside the scope of the company, and are therefore void.

SELF-TESTING EXERCISE

Explain the difference between void, voidable and unenforceable contracts and give an example of each.

The answer to the exercise is on page 619.

LESSON FIVE

REALITY OF CONSENT

IN order to be enforceable, it is not sufficient that the contract should be in the proper form and that the parties should have the right to enter into the contract; in addition the parties must have intended to make the contract they did make. Sometimes one party accepts an offer without really grasping what is implied: sometimes a person may be forced to sign what he never intended to sign. So we shall consider certain ways in which a contract may have been agreed to, but in which one party did not really intend to bind himself in that way.

Mistakes—Law and Fact

Mistakes can be divided into mistakes of law and mistakes of fact. In certain cases a mistake of fact may cause a contract to be voidable, but this never happens in mistakes of law. There is an old maxim *Ignorantia juris*

neminem excusat, which means that ignorance of the law excuses no one. The need for such a rule is readily seen in criminal cases; otherwise a person who robbed a bank or killed someone could make a perfect defence by saying that he did not know it was against the law. When a person pays money under a mistake of law, he cannot recover the money. Thus an R A F officer was paid a larger gratuity than he was entitled to, owing to the banker's misunderstanding the regulations. The money could not be recovered because it was paid under a mistake of law.

Certain mistakes of fact avoid a contract. Where the two parties contract for a thing that does not exist or where one party is under the impression that he is entering into a contract for something else, the contract is set aside. One such case concerned a person who agreed to buy goods from a certain ship. There were two ships of that name and the seller meant one and the buyer the other. It was held that there was no contract. Where a person makes a mistake in the identity of the person with whom he is contracting, the contract will be avoided if the identity of the person is a matter of importance. If a person signs a document and is utterly mistaken as to the nature of the document, he will not be liable. Thus, in one case, a blind man signed a bill of exchange, thinking that he was signing a guarantee; it was found that there was no negligence on his part and so he was not liable. If, however, a person signs a contract without troubling to find out what he is signing, he will be bound by his signature.

Misrepresentation

If a person when selling goods to another person makes statements about the goods, those statements are representations. Sometimes the statements are so obviously exaggerated that no one would take them seriously. Thus if the seller described the article as worth its weight in gold, no one would attach any importance to the statement. On the other hand, if the seller described the article as made of 9-carat gold, such is intended to be taken seriously. In such a case if the article is sold, the statement forms part of the contract of sale. The buyer bought not an article, but a 9-carat gold article. If the representation proves to be untrue it is termed a misrepresentation. When a person makes a misrepresentation, but believes the statement to be true, it is called an innocent misrepresentation, but if he knew the statement was false it is called a fraudulent misrepresentation or fraud.

Innocent Misrepresentation Statements made in a contract are not all of equal importance. If a statement is of vital importance it is a condition, if it is of secondary importance it is a warranty. We shall be dealing with the difference between a condition and a warranty when we study the sale of goods and then we shall get a clear idea of the distinction. When the statement refers to some quality which the article is supposed to possess, and without that quality the article would be different entirely, the statement is a condition.

Thus where the statement is that the ring is of 9-carat gold, then if the ring is not of 9-carat gold, it is a totally different article, and the buyer would not have bought it if he had known the statement was untrue. Again if the seller described the table cloth as of pure Irish linen, the buyer would not have bought it if he had known it was a mixture of cotton and linen. But if the cloth was described as a double damask linen cloth, whereas it was really a

single damask linen cloth, he might still have bought it but would expect to pay a lower price. That is the usual position in the case of a warranty.

The remedies for innocent misrepresentation depend on whether the false statement amounts to a condition or to a warranty. If the misrepresentation amounts to a condition, the injured party is entitled to have the contract rescinded, that is set aside as of no effect, and to recover any money he has paid. Seeing that the false statement was made innocently, he is not entitled to any damages from the person who made the statement. Where the innocent misrepresentation is not of great importance, the injured party cannot have the contract set aside. He claims damages for breach of warranty; in other words he gets the price reduced to the amount he would have paid, if he had known the correct position at the beginning.

Fraudulent Misrepresentation. In order to prove that a statement is a fraudulent misrepresentation certain features are necessary. The false statement must be a false statement of fact. Thus if a person says: "I think as things are at present it is worth £10" that is merely his opinion; but if he says "The wholesale price was £10" or "I paid £10 for it", he is making a statement of fact which may or may not be false. To constitute fraud, the false statement must have been made deliberately to induce the other party to enter into the contract, and the latter must have been misled by the statement and suffered in consequence. Also the person making the statement must have made it, "knowingly or without belief in its truth or recklessly, careless whether it be true or false" (*Derry v. Peck*, 1889).

Derry v. Peck, 1889. A Tramway Co. in their prospectus stated that they had power to work the proposed tramway by steam power. Actually they had to get the permission of the Board of Trade and this was not granted. Peck, who had bought shares, relying on the statement in the prospectus, claimed damages for fraudulent misrepresentation. It was held that there was no fraud because the directors had believed the statement to be true. Lord Herschell in giving judgment quoted the above definition.

The remedy for fraudulent misrepresentation is to rescind the contract or to resist any action to enforce it and in addition to claim damages. The injured party may, if he chooses, continue with the contract, but may claim for the amount of the damages he has sustained by reason of the fraudulent misrepresentation.

As a result of the case of *Derry v. Peck*, the liability of directors for any mis-statement in a prospectus was fixed. No longer has an aggrieved shareholder to prove that the statement is false; instead the directors have to prove that they had reasonable grounds for believing the statement to be true or that it was based on the report of an expert or of an official document. This is now laid down in the Companies Act, 1929.

Uberrimæ Fidei Contracts. So far, we have considered false statements in contracts, but there are certain contracts which come to an end, without any false statements, merely by the omission of true statements. Thus supposing an insurance company when insuring the life of Alf B forgot to ask him about the health record of his people, which of course is very unlikely. Alf's father and mother, sisters and brothers all died at an early age of some special illness. Alf must tell the insurance company of this fact. It is not a question of his giving evasive answers; if he omits to mention this material fact, the contract

can be set aside. The reason is that such contracts require the utmost good faith on either side and that is why they are called by the Latin phrase *uberrimæ fidei* contracts.

A person selling land must tell the other party of any defect in his title to the land; he does not need to mention if the drainage of the land is poor, because the buyer must look out for such defects himself. Similarly there is to be this good faith on the part of those issuing a prospectus; every statement which the Companies Act requires them to disclose must be strictly accurate, and they must not omit any material fact, known to them, which might influence the decision of a person who contemplated subscribing for shares.

Undue Influence and Duress. We are all familiar with stories in which the hero signs the document at the point of the revolver. *Duress* is the word used for such violence, either threatened or actual, and any contract obtained under duress can be avoided by the person who gave his consent under pressure. The court will not enforce a contract entered into under moral pressure, as for example when a wife signed a document, when threatened that otherwise her husband would be prosecuted for theft.

Undue influence refers to such influence as deprives a person of free judgment. In certain cases, such as solicitor and client, parent and child, guardian and ward, the onus is on the solicitor, parent or guardian to prove that there was no undue influence. In other cases the undue influence has to be proved by the person who seeks to avoid the contract. The contract can be avoided if the person takes action as soon as possible after becoming free of the undue influence.

Allcard v. Skinner, 1887. A lady made large gifts to a religious sisterhood of which she was a member. She left the sisterhood and years later claimed that she had parted with her money under undue influence. It was held that she should have brought her case earlier as she had had a lengthy period free from the influence in which to decide whether she wanted her money returned.

Contracts with Moneylenders. A moneylender is a person whose primary business is to lend money, and therefore the Moneylenders Acts do not concern bankers, pawnbrokers and others who may lend money. A moneylender must be registered and can only grant loans at his registered place of business and under his registered name. A moneylending contract is unenforceable unless the borrower signs a note, which contains the date of the transaction, the amount of the principal and the rate of interest charged. A copy of this note must be forwarded to the borrower within seven days. The moneylender has to bring any action within twelve months.

If the court is satisfied that the rate of interest charged is excessive or that the transaction is harsh and unconscionable, it may re-open the transaction and decide how much more has to be paid or how much should be refunded. The 1927 Act states that if the interest exceeds 48 per cent the court shall presume that the interest charged is excessive unless the contrary is proved. In certain circumstances a much smaller rate may be considered excessive.

Contracts in Restraint of Trade. If James J who owns a tobacco and confectionery shop in the High Street sells the shop and the goodwill of the business to Peter F, there is nothing to prevent him from taking an empty shop next door to his old shop and starting the same line of business as before. When

he bought the business, Peter should have insisted on getting from James a signed agreement that because he was selling the goodwill of the business he would not set up in competition with Peter. If this covenant is reasonable and does not interfere with the rights of the public it will be enforced. Each restriction is judged on its merits. Thus if James covenanted not to set up a tobacco and confectionery shop within five miles of the old one before the expiry of five years, it would be considered reasonable. If James covenanted not to set up in business anywhere in the country during his lifetime, it would not be considered reasonable. Circumstances might arise in which a world-wide restriction would be reasonable.

Nordenfeldt v. The Maxim Nordenfeldt Gun Co. Ltd., 1894. On selling his business to the company Nordenfeldt agreed not to engage for 25 years in the manufacture of guns, explosives and ammunition, or in any business likely to compete with that of the company. The last phrase was held to be too wide, but the remainder about guns and explosives was held to be binding as the trade was world-wide, only governments normally buying guns and explosives.

Where the contract in restraint of trade does not arise from the sale of the goodwill of a business, the court is inclined to look at the contract critically. A former employee will be restrained from using any special knowledge acquired while employed, but he cannot be prevented from setting up business of an ordinary competitive nature.

Price maintenance agreements are enforceable provided that they are reasonable and not contrary to public interest.

Palmolive Co., Ltd., v Freedman, 1928. The company allowed Freedman wholesale discounts on consideration that he would not sell their soap "however acquired" below the standard price. The agreement was held to be enforceable. It would of course have been considered unreasonable, if it had contained a restriction not to sell soap of any other make.

SELF-TESTING QUESTIONS

What do you mean by contracts in restraint of trade? When are they enforceable? Horace H, aged 19, obtained employment as a vanman for the AB Bakery Co., and signed an agreement that for five years after leaving the firm he would not take up a similar appointment for any bakery firm within a radius of five miles from the Company's Bakery. Three years later he terminated his employment and started up with the XY Bakery Co., whose Bakery was one mile away from that of AB Co. What is the legal position?

The answers to the questions are on page 619.

LESSON SIX

HOW A CONTRACT COMES TO AN END

ONCE a contract comes to an end all the rights and liabilities are ended. The various ways in which a contract can be discharged will now be considered.

Performance. Most contracts are discharged by being performed in the agreed manner and within the time agreed. If Ernest A has delivered the

goods and Richard B had agreed to pay £6 14s. 3d. for the goods the contract comes to an end when Richard pays or at least offers Ernest the money. It is not sufficient that Richard has the money in readiness, he must tender it, that is offer it to Ernest. Further, he must not tender it in the form of 537 three-penny bits or all in silver.

Of course Ernest might accept either of these sums, but he can refuse and say he has not been offered the amount in legal tender. Gold and Bank of England notes are legal tender to any amount, silver up to £2, copper up to 1s. Ernest may even accept a cheque but he does so conditionally, that is if the cheque is not honoured he can still sue on the original debt. Ernest must stamp his receipt with a 2d. stamp; for any person who does not stamp a receipt for £2 or over is liable to a fine of £10, unless the receipt is given for wages and pensions or for donations to charities.

Unless the creditor agrees or requests on each separate occasion that the payment should be sent through the post, the loss will fall upon the debtor if the payment gets lost or stolen in the post.

If the debtor owes more than one debt to the creditor, he can say which debt he is discharging when he pays the money. If he does not, then the creditor can decide, but he must inform the debtor. This is known as *appropriation of payment*. If the creditor could not legally claim one of the debts, for example if it has become statute barred because it is over 6 years old, then he will appropriate the payment to this debt. Where there is a current account and no express appropriation is made by the debtor or the creditor, the first payment received is set against the first payment out. This is known as the rule in *Clayton's case*.

We sometimes read on an invoice that 5 per cent interest will be charged on overdue accounts. This is merely a general warning to induce prompt payment. No interest can be claimed, unless, when the debt has become overdue, the creditor sends notice to the debtor that he is going to charge interest forthwith, if there is a custom of the trade to do so.

Agreement. A contract is discharged if a new agreement is made between the parties before either has fulfilled his obligations under the contract. If one side has carried out his part of the contract, the agreement should be by deed if the original contract was by deed: otherwise it may be an oral agreement, but there must be consideration to support it.

Alfred B does some work for Sydney C at an agreed price of £45, and after the work is finished Alfred agrees that he will accept £35. Unless he makes the promise in deed form, he can subsequently change his mind, and anytime before Sydney pays he can claim the full amount, because there was no consideration for the promise. But the agreement would be binding if there was some consideration, however trivial; thus if he agreed to take £35 and Sydney's propelling pencil. Further if Sydney pays the £35 before Alfred changes his mind, the latter cannot then claim the extra £10. This is known as "accord and satisfaction." The accord was the agreement to take £35, the satisfaction was the carrying out of the agreement, that is the payment of the £35.

This explains a principle discussed under the heading of consideration. If a person sends a sum of money as payment of a larger sum and stipulates that it is in full settlement, the creditor can retain the sum and still claim the balance.

If, however, he accepts the smaller sum from a third party, say, from the debtor's mother, he cannot claim the balance because there is sufficient consideration.

Impossibility. If a person has undertaken to do some work, he must carry out what he has agreed to do. It is no use for him to say it is harder than he expected, or that it is impossible for him to do it in the time. He should have considered that before he took on the work. Even if it is impossible through no fault of his own, such as when a strike interferes with the completion of the work, he cannot plead impossibility. He ought to have considered that such a thing might occur and have put a clause in the contract to that effect.

In certain circumstances, he can have the contract discharged through impossibility. If the task is one that nobody can possibly do, such as a contract to fly to the moon, then the contract is void, that is of no effect. Where the impossibility is due to the law or to any alteration of the law before the contract is completed, the contract is void.

Bailey v. de Crespigny, 1869. Crespigny leased part of his land to Bailey and agreed that neither he nor his assigns would build on a portion of the land which he had retained. A railway company obtained statutory powers to acquire the land and erected buildings on it. Crespigny was excused, as the law had compelled him to part with his land to the railway company, whom he could not bind by any stipulation.

In contracts of personal service the contract comes to an end if one side cannot carry out his part because of illness.

If the thing contracted for does not exist at the time the contract was made or ceases to exist before the time for completion of the contract, then the contract comes to an end. In *Taylor v. Caldwell*, 1862, an agreement to let a music hall was considered terminated when the hall was burned down before the date of the proposed concerts.

If the purpose for which the contract was entered into comes to an end, then the contract can be set aside on the grounds of impossibility. A number of cases occurred at the time of King Edward VII's Coronation. People had hired rooms with windows overlooking the procession route. The procession was postponed because of the illness of the King. Now the rooms and the windows were still there, but the people who had hired them obviously did not want to sit in them, because the purpose for which they wanted the room was gone and they would not get that for which they had bargained. The contract, therefore, came to an end because of impossibility. At that time people who had paid deposits could not recover them, because it was considered that when impossibility supervenes, everything comes at once to an end, and people are left in the position in which they find themselves at that moment. Nowadays when impossibility arises any money paid by way of deposit or part payment can be recovered.

Fibrosa Soci  t   Anonyme v. Fairclaire, Lawson, Coombe and Barbour, Ltd., 1942. A Polish company had ordered machinery from an engineering firm at Leeds and paid £1,000 in advance. The machinery was to be delivered to Gdynia but before the time for delivery the Germans invaded Poland and Great Britain declared war on Germany. Since a British subject could not lawfully deliver goods at Gdynia, the contract came to an end because of impossibility. The House of Lords ruled that the deposit must be paid back.

This was fairer than the old idea, but great hardship might be inflicted on the person who had to pay back the deposit ; he might have expended a considerable sum of money in preparation for the contract and would lose all of this.

The Law Reform (Frustrated Contracts) Act, 1943, now provides that a party who is required to repay money paid to him in advance, under a contract that has become impossible of performance or has been otherwise frustrated, may be allowed to deduct expenses he has incurred before the frustrating event in connexion with the contract. The Act does not, however, apply to a contract for the carriage of goods by sea and most charter-parties, a contract of insurance or a contract for the sale of perishable goods.

Lapse of Time. A contract does not come to an end merely because a long period has elapsed, but if the period is very long it suggests that both sides have agreed to do nothing further.

The remedy of enforcing a simple contract comes to an end after six years, in order that the courts shall not be troubled with old cases, possibly after some of the witnesses have died. No action can be brought to enforce a deed after twelve years. Actions to recover land must be brought within twelve years except in the case of the Crown when the time is thirty years.

The time limit starts to run from the time when the cause of action arose, as for example when the money is due for payment. In contracts with infants, it starts to run from the time the infant is of age ; with a person of unsound mind from the time he becomes sane ; where the rights have been concealed by fraud, from the time the fraud is discovered.

After the right of action has been lost, it may be revived if the debtor pays part of the debt or gives a written acknowledgement.

Assignment of Contract

At one time, neither rights nor liabilities under a contract could be assigned. The only way in which liabilities could be assigned was for the parties to enter into a new contract called a *novation*. Thus if Peter S had contracted to do some work for Henry T they could make an agreement by which Henry T would look to Sydney H to do the work.

As time passed, the assignment of debts and other rights under contracts became possible, but any action to enforce payment had to be made in the assignor's name and not in the name of the assignee, that is the person to whom the right was assigned. Further, the assignee did not get any better title than the assigned ; this is known as taking subject to equities. Thus if Fred A assigns to George C a debt of £50 which Henry B owes him, George C gets merely the rights Fred A has. Now if Henry B could have set off a counter claim for £10 against Fred A, then George C could claim only £40 from Henry B. An assignment of rights can still be made in this way, and it is known as an equitable assignment.

Most assignments are now made under the Law of Property Act, 1925, which provides that the assignment must be in writing and signed by the assignor ; it must be absolute, that is a definite claim without conditions ; it must not be by way of a charge, that is security for loans ; notice in writing must be given to the debtor or the person from whom the money could be claimed. The assignee takes subject to equities, that is, he does not get any better title

than the assignee had, but can take action in his own name to enforce his rights.

Assignment of rights or liabilities occurs at the death or bankruptcy of either party to a contract. At death, apart from contracts of personal service, all rights and liabilities pass to the executor or administrator of the deceased ; at bankruptcy they pass to the trustee in bankruptcy.

Breach of Contract. In a breach of contract the rights and liabilities under the contract come to an end and give rise to the right to take action to secure compensation for the breach.

If the obligation which the one party refuses to perform is so important that it affects the whole of the contract it is called a total breach. When this happens the other party can at once cease performing his obligations and take action. A partial breach is one that does not affect the whole of the contract. Thus if the contract can be divided into sections and the breach is in one of the sections, it may amount to a partial breach although in some circumstances it may be a total breach. Where there is a partial breach, the injured party must finish his obligations under the contract before he can take action, or at least he must be able to show that he was willing to continue until prevented by the other side.

Bettini v. Gye, 1875. Bettini contracted to sing in operas and concerts for Gye, and agreed to be in London for rehearsals six days before the first performance. He arrived two days before the first performance. Gye treated it as a total breach and would not go on with the contract. It was held to be a partial breach. Gye should have let Bettini sing and sued him for damages for not being present at the rehearsals.

The breach may occur before the day fixed for the performance or it may occur during the performance. Thomas T agrees to sell his yacht to Robert R at the end of the yachting season ; but a month before the end he sells it to someone else ; Robert can take action immediately, or he can wait until the agreed date. It is always advisable to commence action immediately, because if anything happens to render the contract impossible, the offending party is freed even though he has announced that he would not complete.

Avery v. Bowden, 1856. Bowden's agent refused to load wheat on Avery's ship as agreed. Avery's agent did not take action, but continued to press for a cargo. Before the last day for loading, the Crimean War commenced and shipments from Russian ports became illegal. Avery lost his action because he had not renounced the contract when refused a cargo. Hence Bowden could have supplied a cargo before the last date, but was excused by the outbreak of war.

The usual remedies for breach of contract are to claim damages, or to sue on a *quantum meruit*, or to sue for *specific performance*. We must distinguish between liquidated damages and unliquidated damages ; the latter are fixed by the court. If the parties had previously fixed a sum payable in case of breach it is termed liquidated damages. If the amount is considered an honest attempt to assess the value of the breach, then the court will award that amount. If however, an excessive sum has been fixed, the court will consider it a penalty and will itself fix the amount of damages.

The amount of damages will be such as both parties would have considered reasonable at the time when the contract was made. If one of the parties

wants the goods for some special purpose but does not tell the other party, he cannot later claim any special damages. Supposing the purchaser knew he could sell the goods at a specially high price to a certain person, but because the goods arrived late he had to sell only at a normal price; he will not be able to claim the difference if he has merely asked for delivery on a definite date. If he had stressed the importance of the date and also stressed the fact that he would lose heavily if he did not get the goods by that date he could claim special damages.

In a breach of contract the person who has been injured by the breach may sometimes be able to sue, not for the contract price but for the value of the work he has done. Edgar P agrees to write twelve articles for a magazine at two guineas each. After he has written three, the magazine stops publication. He obviously is entitled to six guineas and can claim damages because he has been prevented from earning the other 18 guineas. Now supposing Wilfred S agrees to write twelve articles for £25. The contract cannot be split up into 12 parts. After he has written three articles he is not entitled to the contract price, nor to three-twelfths of £25. He must therefore ask the court to fix the value of the work he has done. This is termed suing on a *quantum meruit*. In addition, he can claim damages as in the case of Edgar.

Sometimes the defaulting party can sue on a *quantum meruit*. Peter J agrees to paint a portrait of Horace T, but after completing the head he refuses to finish the portrait. He obviously cannot claim the purchase price. Now supposing Horace retains the canvas and gets another artist to finish the portrait, Peter can claim on a *quantum meruit* for the value of the work he has done. Supposing, however, the painting had been made direct on to the wall and not on a canvas to be attached to the wall. In its unfinished state it would be an eyesore. If Horace got it completed, Peter would have no claim because Horace has no alternative but to finish the work.

Sumpter v. Hedges, 1893. Sumpter agreed to build two houses for Hedges but did not complete them. Hedges had the work finished, and used some material left on the site. Sumpter could recover the value of this material, but could not claim for the contract price as he had not finished the work, nor could he claim on a *quantum meruit* because Hedges had to use the work he had done.

If the contract was for the purchase of some antique jewellery or some plot of land and no amount of damages could compensate the injured party for the breach of contract, he can sue for specific performance, that is to force the defaulting party to give him the goods. The court may make an order that the article or documents be handed over. Obviously specific performance can be granted only when the court can supervise. It would not be granted if the court had to superintend the erection of a building. It is never granted for contracts of personal service; you could not expect the court to order an opera singer to sing *Carmen* and attend to hear if she sang up to a required standard.

Nor is specific performance granted in infants' contracts. The opposite of specific performance is more frequent, namely an *injunction* to restrain a person from doing something. Thus if an artist has agreed to appear exclusively at a theatre during one week, an injunction can be obtained to prevent him from appearing in some other place during the week.

SELF-TESTING QUESTION

William T bought goods from Philip Q on the first of January, payment being due immediately. On the invoice was a statement that 5 per cent interest would be charged on overdue accounts. On the first of May Q wrote that the debt was overdue and that he was charging interest from January 3. William T did not pay till September 3. What interest if any could be charged?

The answer to the question is on page 619.

LESSON SEVEN

AGENCY

MOST commercial dealings lead up to the making of contracts, and therefore the law of contracts applies to agency as well as it does to all other business transactions. But agency is a particular form of contract, just as Northern Union is a particular form of rugby football with its own special rules.

What is Agency?

Suppose John A sends out Tom B to collect a debt of one pound, giving him explicit instructions not to take a penny less, not to give any discount, how to make out the receipt, and so on. Here Tom B is merely an employee carrying out definite orders. But suppose John A tells Tom B to go to collect a debt and gives him general instructions in this wise. "I want you to do the best you can. The debtor will probably wriggle and try to evade payment. He may offer to give us so much in full settlement of the whole. If so accept it. Anyhow do the best you can, but get it settled to-day somehow."

In the first case Tom is merely the extended hand of John, obeying the behests of John's brain. In the second case Tom is obeying a general instruction, "Collect the debt and do the best you can," but is allowed to use his discretion as to how he does use it. He uses his own brain, and John states more or less explicitly, "I will be bound by what you arrange."

In the first case Tom obeys a particular instruction in a particular manner. In the second he obeys a particular instruction in a general manner. In the first case he is acting as a servant, an employee. In the second he is still acting as a servant, but he is an agent.

Now to use more specifically legal terms, John A is the principal and Tom B the agent, that is the person employed by the principal to bring him into legal relationship with third parties.

House and Estate Agents

The type of agent we are all familiar with is the house and estate agent. Mrs. Jones, living in London, has some houses in Sheffield. She employs an agent, Mr. Brown, to let her houses, collect her rents, order necessary repairs, and generally relieve her of the necessity of travelling up to Sheffield to do all these and other necessary things. But she is still the owner, and the rents are owing to her, not to the agent. She has duties to the tenants (to keep the

houses in repair as defined by the agreement of tenancy), her tenants have duties to her. This is what "legal relation" means: both sides have duties, or obligations to each other. A house falls vacant. The Sheffield agent, Mr. Brown, finds a tenant, a Mr. Robins, and installs him in the house. The agent has set immediately into motion a new contract between Mr. Robins of Sheffield, and Mrs. Jones of London. Mr. Robins engages to pay his rent and to treat her property reasonably; she engages to leave him to occupy the premises and to keep them in reasonable repair. These are the obligations and duties referred to, and as Mr. Brown was instrumental in bringing Mrs. Jones and Mr. Robins into legal relationship, he is said to be the agent.

Who May Appoint an Agent?

From an earlier lesson you have learnt that a person under 21 can make legal contracts for certain necessities such as reasonable supplies of food, drink and clothing, and for his education, but he does not possess the general power to make all contracts.

Now who may appoint agents? The simple rule is: *Anyone who possesses the general power to make contracts can appoint an agent to act for him.*

An infant can therefore appoint an agent to make those contracts which an infant is permitted to make, but cannot appoint an agent to make a contract not permitted to an infant.

An infant can act as an agent, putting his principal into legal relationships which the infant personally could not make for himself.

Classes of Agents

There are three main legal classes of agents. These are, special, general and universal.

The specific agent is one appointed for a special purpose. Consequently his powers are limited. To refer again to John A and Tom B, John sent out Tom to collect a debt and as such he was a specific agent. If without special authority he ordered a theatre seat, or bought a motor-car for his principal, John could quite reasonably say, "Pay for it yourself, I won't have anything to do with it."

Now consider the case of Mrs. Jones of London and Mr. Brown of Sheffield. He was appointed to look after her Sheffield property, to let her houses, to order necessary repairs, and to supervise her property generally. He was therefore a general agent with authority to do anything within the limits of his position. He can, unless explicitly ordered to the contrary, give instructions for a roof to be repaired, order a new wash basin, make a tenant exercise more care in the treatment of his house, get rid of one tenant and let the house to another. But he cannot buy a motor-car for his principal unless she requests him to do so (that is enlarges the scope of his authority). His authority is good within certain limits but null outside those limits.

Two legal phrases from the Latin are used to express this: *intra vires*, meaning within his legitimate powers; and *ultra vires*, outside those legitimate powers.

A universal agent has, as the name implies, complete and absolute power to make contracts for his principal. A man obliged to leave another in complete and absolute control of his affairs, such as a prisoner of war, might, if a man of

many business interests, appoint a trustworthy solicitor or a bank, as his universal agent during the period of his captivity.

A fourth class of agent is sometimes included, that is a *del credere* agent. He is a business agent, who, as he is paid a higher rate of commission than is normally granted, undertakes financial responsibility for his deals, that is, if the purchaser does not pay the principal the *del credere* agent will.

Types of Agents

There are many types of agents, and a sentence or two concerning each may be useful.

A *broker* is an agent who makes contracts, and receives a commission called brokerage. He does not buy or sell in his own name, and does not hold the goods in legal possession.

A *stockbroker* buys and sells stocks and shares on behalf of many different principals for a commission also termed brokerage. He has to work according to the customs of the Stock Exchange of which he is a member. Naturally he must obey these rules and his principals must also be bound by these rules.

An *insurance broker* negotiates insurance policies, usually for ships and cargoes, with underwriters. The underwriters look to him, not to the principals, for payment of the premiums.

An *auctioneer* is in a curious buffer position ; he is solely the agent of the seller up to the moment of the sale, and after the sale becomes the agent of the buyer as well. He has legal possession of the goods, and may refuse to give them up until his charges are paid.

A *banker* is either the debtor or creditor of his client, that is if the client has money in the bank the banker is debtor to him for that amount ; if the client is overdrawn naturally he is the debtor of the banker. But as the banker honours his client's cheques he becomes, in this respect, the agent of the principal, and if his client has a credit balance a banker who refused to honour these cheques would be liable.

A *factor* is an agent who handles goods in his own name ; he differs from most of the other agents mentioned above in that he has actual possession of the goods, or of the documents entitling anyone holding them to claim the goods.

A factor has the authority to give guarantees about the goods, to insure them, and generally to behave as though the goods were his own, as long as he acts in the best interests of his principal.

A *solicitor* is a specific agent of his client and has, unless specially forbidden, authority to do most things when a legal action has commenced, although he may not initiate an action without his client's orders.

A *wife* is the implied agent for her husband, being able to pledge his credit for necessities according to their standard of life.

A *partner* is the agent of the other members of the firm and may generally bind them in any way connected with the ordinary business of the firm.

Appointment of Agents

The question of how an agent is appointed is largely one of fact. The law of contract generally applies ; agents appointed to execute contracts which must be in writing ought to be appointed in writing. This is common sense : all

agency appointments ought to be in writing, but many are not, and agents appointed by word of mouth are quite legally appointed, except in certain specific cases where the law requires special care, e.g. the Companies Act states that the prospectus must be signed by every director, or his agent authorized in writing.

Agents appointed to make formal contracts (deeds) must be appointed by deed. This is termed power of attorney, and has obviously a wider scope. We have learnt that certain contracts made by corporations, e.g. limited companies, must be made by deed; agents appointed to make deeds for one of these bodies should also be appointed by deed.

An agency can be set up in many ways: by deed; in writing or by word of mouth; or by implication. The formal type is used when the agent will have to sign deeds for his principal. Other agents are appointed in writing, and this is obviously desirable in order to prevent later disputes; but many are appointed verbally, as for example, you might entrust your old bicycle to a friend, setting up agency with these words, "Sell it and see what you can get for it."

Agency by implication is equally simple. Suppose a husband took his wife to a jewellers, and let her choose a piece of jewellery which he paid for. Should she on a subsequent visit choose and take away another piece, the jewellers could assume she was acting as his agent, and sue him for the price. This is legally termed *agency by estoppel*, the last word means "stop" and the husband is stopped by his previous conduct from denying that the wife is acting as his agent.

Soanes v. London and South Western Railway Co., Ltd., 1919. Soanes handed his luggage to a uniformed porter and it was stolen. The Company excused themselves from liability by saying the porter was not on duty, but this plea failed. He was in the Company's uniform and an intending traveller had every right to assume he was on duty. The Company therefore were estopped from denying liability for the negligence of their agent.

One sometimes hears of *agent by necessity*. If a husband left his wife penniless without due cause, she could pledge his credit to keep herself. A railway company, unable to deliver perishable goods, might be compelled to sell them, thus acting as agents of necessity for the owners.

Duties of Agents

Once an agent has been appointed he has definite duties to his principal. He himself should do the set work with reasonable skill, care and diligence for the sole benefit of the principal and, if a paid agent, he must not use less skill and care than he would have shown if working for himself. If he is unpaid, as for example, the friend whom you asked to sell your old bicycle, then he is liable only for gross negligence. If an agent does something for his principal outside his prearranged authority (*ultra vires*) then the principal can ratify the act or repudiate it, at his option.

The agent must keep proper accounts and preserve all relevant documents, and must not make any secret commissions or profits, nor must he do anything which would set his own interests into conflict with those of his principal (e.g. sell his own property to the principal, or himself buy property belonging to the principal, without express permission). If he does accept a secret commission

the principal is in a very strong position, as shown by the case of *Salford Corporation v. Lever*, 1891, which concerned tenders for the supply of coal to the Corporation.

Lever agreed to pay the Corporation manager one shilling a ton if his contract was accepted. He naturally charged more to cover this. The Corporation could either continue the contract or repudiate it, they could claim the amount received by the agent as a bribe, and could, and did in this case, recover one shilling per ton from the briber as damages.

By two Acts passed in 1906 and 1916, agents who receive secret bribes and persons giving them, can, under certain circumstances, be punished by a fine or by imprisonment or by both, the punishment being heavier when the suffering principal is a government or local government department.

Rights of Agents

If the agent does his part correctly he has certain rights against his principal. He has the right to his commission or payment, sometimes even if the principal does not carry on the proposed transaction. He has the right to be indemnified from all liability, financial or otherwise, incurred in his agency, as long as the agent acted in good faith (*bona fide*) and without knowledge that an act was wrongful.

Generally the principal is liable on the contracts made for him by his agent, but whether the general rule is followed depends on the particular case. Here are the general rules.

1. If the name of the principal is disclosed and the agent known to be such, the presumption is that the principal is liable.

2. If the agent agrees to be liable, or if he contracts in England for a foreign principal verbally, without a clear written contract; if he executes a deed, or signs a bill of exchange *in his own name*; or if there was no principal in existence at the time of the contract (e.g. one made for a projected, but not yet registered, limited company); then the agent is liable.

3. The third party may sue either the principal or agent at his option where the principal is unknown and the agent known to be acting as agent, or when the agent was acting as principal and the real principal is afterwards disclosed, but note that the third party must choose who is to be sued, for he cannot sue both in turn.

If the agent commits a fraud in the course of his employment the principal is liable, but the fraudulent act must have been committed in the ordinary course of his agency and not outside it. If a person falsely says he is an agent, and is not, naturally the principal is not liable, otherwise all of us would be in danger all the time. Here the self-styled agent should be sued for breach of warranty of authority.

A person who sets himself to be an agent but who is not, may be said to warrant or guarantee to the third party that he is an agent. If he is not, the third party should sue him for breach of warranty, in other words for making a false guarantee.

An agent who exceeds his authority is similarly in danger of an action. The same rule makes the agent liable in contracts made in ignorance of the principal's death or insanity, which terminated the agent's authority, even if the agent was unaware of the death or insanity.

How Agency Terminates

Agency finishes in various ways. The usual one is by agreement of the principal and agent. We speak of *revocation* by the principal and *renunciation* by the agent. But a contract in which the authority was given to the agent to do something in which the agent had a personal interest is irrevocable until the act is done, or if the agent would suffer if the act were half done, the agency cannot be revoked until the act is completed.

Another way in which an agency can finish is by the death or insanity of the principal or agent, and in the last section we learned that an agent may be personally responsible for a contract he made for his principal while not aware of his principal's death. In the case of *Yonge v. Toynbee* (1910) the agent was held liable on a contract made for his principal while the agent was not aware of the principal's death.

Bankruptcy of the principal or dissolution of a company acting as principal terminates agency although the bankruptcy of the agent does not necessarily terminate his agency.

Also when the act is complete for which the agency was set up, or if the subject matter of the agency is destroyed, the agency terminates, and where personal service is concerned an agent who joins H.M. Forces is discharged from all future liability.

SELF-TESTING QUESTIONS

1. Arthur A, an agent, makes three contracts for his principal Peter P, one in January, one early May, one mid June. The principal died on May 31, but A was not aware of this. On which of these contracts, if any, was the agent personally liable?
2. Mrs. B, who was accompanied by her husband, bought gowns for her own use, suitable for her station in life, from P Ltd. Later, as she did not pay, P Ltd. brought an action against her. Would this action succeed?

The answers to the questions are on page 619.

LESSON EIGHT**SALE OF GOODS**

THE Sale of Goods Act of 1893 codifies in one act the customs of merchants for generations, Acts of Parliament, and innumerable decisions in doubtful cases which had to be tried by judges.

When goods are bought or sold contracts are made, and the laws of contract apply. All that you have learnt in earlier chapters regarding offer and acceptance, consideration and capacity, applies to these contracts of the sale of goods in addition to the particular rules as laid down in the Act.

Section 1 of the Sale of Goods Act states that "the seller transfers or agrees to transfer the property in goods to the buyer for a money consideration, called the price." This is termed a contract for the sale of goods. It is simply stated and clear; all that requires explanation is the word "property" which means the absolute ownership.

Suppose you have a bicycle. You are the owner, and without your permission no one can rightly sell it. It is stolen from you, and sold by the

thief to a third party who has no knowledge of the theft (he has bought it *bona fide*), it is still your machine, and should you recognize it you should call in the police to compel the purchaser to return it to you. He has the *possession* of it but you have the *property* in it.

If you get it back and lend it to a friend for an undefined period he has the *custody* of it. These three terms should be noted.

Agreement to Sell

The definition makes a distinct difference between a sale and an agreement to sell. A contract which is made but not put into operation is termed *executory*. An agreement to sell is therefore an executory contract of sale. If either party refuses to go on with it, the injured party can take action and sue for damages. In an actual sale which is not completed the remedy is different. There the injured party, if the seller, can sue for the price, if the buyer, can sue for specific performance (that is delivery of the goods) or damages.

Who can make a contract of sale takes us once more back to capacity to contract, and the rules you have read still apply.

What are Goods?

There is a difference between what the buyer receives when he pays for goods, and when he pays for services rendered. If I buy 10lb. of paint I have bought certain goods. If I pay a painter to paint my fence I am paying him for his services, not primarily for the paint used by him. If I agree to pay him three pounds for the job, I shall not get three pounds value of paint, probably only one pound's worth; the two pounds are paid for putting it on. The Sale of Goods Act applies to goods, but not generally to services.

Clay v. Yates, 1856. A book which the author ordered to be printed but refused to accept was held not to be goods, but a contract for work and labour, hence the rules later included in the Sale of Goods Act did not apply. But note:

Lee v. Griffin, 1861. In this case a set of artificial teeth ordered was held to be goods, not a contract for work and labour. The difference is that in the latter case the teeth represent something that is handed over, whereas with the book it is mainly the use of the type, the skill in setting up, that is paid for, not only the paper and ink.

The money consideration, termed the price, referred to in the definition, must be money, or at least money plus goods, before the contract is one for the sale of goods. If goods are exchanged for goods then the Sale of Goods Act does not apply to the contract, which is one of barter.

The price is usually fixed, but if it is not, that which is to be charged is the reasonable price, having regard to *all* the circumstances of the case. You would expect to pay more for a cigar in an exclusive night club, than you would for one of the same variety in a tobacconist's shop.

Enforceable Contracts

Many disputes in early times led to an act known as the Statute of Frauds (1677) passed to prevent misunderstandings, part of which was later included in the Sale of Goods Act as the very important Section 4.

This says that no contract for the sale of goods to the value of ten pounds or over shall be enforceable unless : (a) the buyer accepts part and actually receives them, or (b) the buyer pays something on account, or (c) there is a note in writing of the contract signed by the person to be charged.

The person to be charged, often the buyer, must therefore take some of the goods, or pay something, or sign a note that he is buying the goods. This shows that he is in earnest, as one should be in buying goods to the value of ten pounds. If none of these things is done, then the law cannot be invoked to enforce the contract ; it is assumed the parties were not serious.

In the phrase " the buyer accepts " the term " acceptance " means doing any act which recognizes the existence of the contract.

Abbott v. Wolsey, 1895. Here the defendant bought by sample 20 tons of Dutch hay, without any note in writing, to be delivered to his wharf. He went on the barge, and examined the hay and refused to have it because it was not up to his sample. He thereupon refused to admit the contract of sale. But it was held that his action in boarding the barge and examining the hay was " acceptance . . . when the buyer does some act . . . which recognizes a pre-existing contract of sale."

In another case a man attempted to resell some barley which he refused to accept. But his very attempt to resell it was sufficient to indicate a pre-existing contract.

Buyer's and Seller's Risk

If A buys a horse from B and it dies before the transaction is complete, whose is the loss ? The rule is generally that the goods remain at seller's risk until the property passes. If A says, " I'll have the horse, keep it in your stable till I collect it in the morning," then A's is the loss. But if A says, " Hold it till the morning and I'll let you know then," B is the loser. In the first case when A said, " I'll have the horse," if B agreed, the property passes at that moment. But the goods must be definitely identifiable. If I said, " I'll have 10 tons of that coal " (there being a heap of 30 tons), there is no risk on my shoulders until my ten tons are separated from the remainder.

There are five rules to indicate when the property passes to the buyer :

Rule 1. When the goods are ready and recognizable as individual items the property passes when the contract is made. " Put that chair on one side for me. I'll have it."

Rule 2. When something has to be done to the goods to make them ready for delivery ; when that is done and the buyer informed, the property passes. " I'll have that chair if you'll have it french polished."

Rule 3. When the goods have to be weighed or measured or sorted out ; when that is done and the buyer informed, the property passes. " I'll buy that heap of logs at twenty shillings a ton. Will you weigh it up ? "

Rule 4. With goods on sale or return, the property passes when the buyer intimates his will, or does something that reveals his intention. A woman takes a frock home for her husband's approval. She wears it out in the park. It is ruined by mud from a passing car. The loss is hers ; she has worn it, not merely in privacy for his inspection but out in public as if it were her own.

Rule 5. Where goods in a deliverable state are handed to a carrier with the buyer's approval for transmission the property has passed to the buyer.

Conditions and Warranties

The difference between a condition and a warranty is important. A condition is an essential part of a contract. Without it the goods are worthless to the buyer. A warranty is not essential as being part of the contract but is incidental to it. If a warranty is broken the article is not worth so much to the buyer.

"Flannel shirts, fully fashioned and unshrinkable." If the shirts were not flannel they would not be what you had in mind when you were contemplating buying them. Therefore "flannel" is a condition. If they are not flannel the buyer could rescind (cancel) the whole transaction. "Fully fashioned and unshrinkable," these are warranties. If the shirt is skimpy or if it shrinks there are grounds for action, but not for cancelling the whole contract.

There are certain implied conditions and warranties not mentioned in the contract, but agreed by both parties automatically :

1. That the seller has a right to sell the goods (i.e. that they are his to sell).
2. That the buyer can possess the goods without interference.
3. That the goods are free from anything not declared that will prevent them from being saleable.

Nibblett v. Confectioner's Materials Co., 1921. Buyer purchased condensed milk but found he could not resell without infringing a trade mark. The contract was nullified.

Sale by Description

Goods sold by description must agree with that description. Goods sold by sample must be up to the sample. Goods sold by sample and description must correspond with both :

Moore v. Landauer, 1921. Buyer contracted for tins of Australian fruit in boxes containing 30 tins. Some were delivered in boxes containing 24. Although the quality was not in question, this discrepancy in packing was held to be sufficient to avoid the contract.

Fitness for Purpose

Generally the buyer has to look after his own interests when making a purchase and to see that the goods are suitable for the purpose which he has in mind. This is termed "*caveat emptor*," let the buyer watch his own interests. But, in certain cases, such as when he relies on the seller's superior skill or knowledge, there is an implied condition that the goods are reasonably fit for the stated purpose.

Frost v. Aylesbury Dairy Co., Ltd., 1905. Here milk was supplied which was infected by typhoid from which Mrs. F. died. It was held that, even though the Dairy Company could not know of the infection, they were nevertheless responsible as there was an implied condition that the milk should be pure and free from infection.

A similar case is *Preist v. Last*, 1903, where a hot water bottle burst and scalded the user ; it was held that she could recover damages, as a hot water bottle should be fit to hold hot water.

Goods sold under a trade name normally carry no guarantee by the seller. If I buy "Smith's Speedy Cold Cure," and it fails to cure my cold, the risk is my own, as the Act specifically excludes goods sold under these names. But

if I know that I am depending on the superior skill or knowledge of the seller then the fact that he sold a trade-named article will not protect him.

Baldry v. Marshall, 1925. The buyer asked a motor-car dealer to supply a comfortable car suitable for long distance touring. He was sold an eight cylindered Bugatti under its trade name. Now this was a wonderful sports-type car, but not a family bus, and the purchaser wished to withdraw from the bargain. The sellers relied for their defence on the fact they had sold it under a trade name. It was decided that, as the buyer obviously depended on the seller's judgment, this was no defence and the buyer won his case.

Indeed, so many exceptions have been made to the rule of *caveat emptor* that it has almost ceased to apply except in relation to the sale of land.

Merchantable Quality

Goods, bought by description from sellers dealing with that type of goods, must also be of merchantable quality, and free from obscure defects that would make them unsaleable.

Jackson v. Rotax Motor Co. Buyer ordered motor horns. These when delivered required something to be done to many of them to make them saleable. The buyer rejected them. Held the buyer was within his rights, for if something had to be done to them to make them saleable, then the goods were not merchantable.

But the buyer must have taken reasonable precautions. If he is allowed to examine the goods there is no implied condition as regards defects which the examination should detect.

Thornett and Fehr v. Beers and Son, 1919. Glue in barrels was sold, and the buyer was given every chance to examine it, but he was in a hurry, and merely looked at the barrels casually. It was held that the buyer had examined the goods, and the onus was on him.

Even the containers of goods, merely hired, such as mineral water bottles, must be sound. If not, the seller may be liable as in the case of

Morelli v. Fitch, 1928, where a bottle of Stone's Ginger Wine broke at the neck and injured the purchaser; the sellers were held to be liable.

With dangerous goods the seller should take every precaution to prevent a purchaser being injured in using them, unless the buyer is aware of the risk.

Clarke v. Army & Navy Co-operative Society, 1903. A woman bought disinfecting powder in a tin, which, when opened in the usual way, caused damage to her eyes. It was held that she should have been warned of the danger, and she was awarded damages.

Sale by Sample

Goods bought by sample must correspond in quality with the sample, and the buyer shall have a reasonable chance of comparing the bulk with the sample. Moreover the goods must be of merchantable quality, that is, if for sale, resaleable, if for use for a purpose, reasonably fit for that purpose. This means that, to absolve the seller, defects which render goods unsaleable ought to be obvious in customary examination.

Drummond & Sons v. Van Ingen & Co., 1887. Merchants ordered cloth by sample, after making all the usual tests. But when the bulk arrived a

defect was found, not discoverable by the usual tests, but easily discoverable by another test, which made the cloth unusable for their purpose. Held that the cloth was unmerchable.

Here the "usual tests" were made, with satisfactory results. Consequently the buyers had done their share. If another defect, which was not traceable by the usual tests, manifested itself to such a degree as to make the material unusable, the buyers would be able to win the action.

Quantity

Section 30 of the Sale of Goods Act lays down simple rules about quantity contracted for :

1. If less than the contracted amount, the buyer may reject the whole or accept it and pay at the agreed contract rate.

2. If more than the contracted amount, the buyer may reject the whole, or accept the exact amount, and reject the surplus, or accept the whole paying at the agreed contract rate.

3. If the goods are mixed, some complying with the order, some not, the buyer can accept the whole, or reject the whole, or accept that which is right, rejecting that which is not.

Unless specifically agreed the buyer is not compelled to accept the goods by instalments.

Title to Goods

If I buy goods from someone *bona fide*, I feel that I ought to be sure they were his goods, and he had the right to sell them. Section 12 of the Act states that the seller warrants the goods are free from any encumbrance in favour of third parties. An old legal maxim, *Nemo dat quod non habet*, (no one can give what he does not own) indicates that no one can give, with the exception noted below, any better title to property than he has himself. Hence if I buy stolen goods I have no better right to them than the thief had, unless the true owner tacitly permitted the sale to me.

Pickard v. Sears, 1837. A man mortgaged his machines, and later all his goods, including those mortgaged, were seized in settlement of a debt to someone else. The man who had loaned the money against the machines knew of the seizure but said nothing, and later claimed them back from the buyer. Held he was estopped by his conduct.

Market Overt

Open market is the exception mentioned above. Any shop in the city of London is *market overt* if it sells, but not buys, its particular merchandise ; so also is any other open fixed market set up by royal charter or held from time immemorial. If goods are bought in market overt, *bona fide*, and between sunrise and sunset, the buyer gets a good title to the goods. But the dealings must take place in the open shop, not in a room behind the shop, and the shop-keeper must be the seller not the buyer. Moreover, if the goods are stolen, and the thief convicted, the title to the goods reverts to the original owner. So market overt is not such a wide exception as at first appeared. Goods obtained by false pretences can be held by the buyer, but goods which have been stolen revert to the true owner when the thief is convicted.

Payment

Unless specially stated, delivery of goods and payment should take place simultaneously ; there is no right to credit unless specially contracted for or it is the custom of the particular trade. But most of the actions over Sale of Goods relate to non-payment of the agreed charge, so this will be considered next.

An unpaid seller has certain rights :

1. If the goods are still in his possession he has the right of *lien* or detention, that is he can keep the goods until the price is tendered (offered) if no credit has been agreed upon, or if the buyer is insolvent.

2. If the goods have been handed to a carrier to deliver to the buyer, the unpaid seller has the right of *stoppage in transitu* or stoppage in the journey. He can inform the carrier to hold the goods and not deliver them.

3. But if the goods have been delivered this right ceases, and the unpaid seller must bring an action for the price.

4. If the buyer refuses to accept the goods the unpaid seller can bring an action for damages.

5. If the unpaid seller has recovered the goods through lien or stoppage in transitu, he has the right of resale if he has warned the buyer, who does not then pay, or if the goods are perishable.

Hire Purchase or Deferred Payments

It was estimated by the Hire Purchase Traders Association that in 1932 there were about 16,000,000 hire purchase contracts then in existence in the United Kingdom. This truly astonishing figure shows the importance of this type of transaction in commercial life and merits a brief consideration of its legal aspects.

If I buy a suit by deferred payments the article is mine when I say I will have it. If I buy a radiogram by hire purchase, it is not mine until I have paid the final instalment. So that I could sell the suit immediately I got it, but I could not sell the radiogram till I had fully paid for it. But, in practice, an agreement is made by which deferred payment transactions have a clause stating that the property in the article does not pass to the purchaser till the full price is paid ; also if an instalment is late the remaining instalments immediately fall due.

The essential point seems to be this. If the agreement is a contract to hire, with an option to purchase, it is hire purchase. The buyer cannot sell the goods until he has paid the final instalment, and the seller can retake possession on default. If the agreement is a contract to hire with an obligation to purchase, i.e. to pay the full amount, then it is deferred payments and the buyer can sell the goods when he likes and the seller cannot retake possession of them.

To protect small buyers the Hire Purchase Act (1938) was framed. It states among other things that :

1. The cash price and credit price must be clearly differentiated.

2. That goods cannot be repossessed by the seller without permission of the court.

3. That the conditions and warranties in the Sale of Goods Act generally apply to hire purchase contracts.

SELF-TESTING QUESTIONS

1. A man bought a bottle of mineral water which burst when he opened it and injured him. He claimed damages, but the sellers stated that he had not bought the bottle, but had merely hired it. Would his claim succeed?
2. A tramway company bought from a motor company six omnibus chassis for conversion into buses. They would not stand up to the work in the hilly country for which they were purchased. The tramway company brought an action. Under what principle of the Sale of Goods Act could it hope to succeed?

The answers to the questions are on page 620.

LESSON NINE

NEGOTIABLE INSTRUMENTS

WHEN we were discussing the Sale of Goods Act we found that possession was not always nine-tenths of the law. A stolen bicycle, honestly purchased, can always be claimed back by the original (and legal) owner. Even if bought in market overt, if the thief is convicted, the bicycle can always be repossessed by the true owner and the individual who bought it *bona fide* will get no compensation. So naturally we must take great care to see that any goods we buy are the true property of the seller, or else we may find ourselves financially much the worse off.

We can protect ourselves by never buying anything under suspicious circumstances from persons met casually, confining ourselves to reputable traders dealing obviously honestly and above board. We may miss a bargain or two, but we shall save much worry and possible financial loss. To buy say, a second-hand cycle from a man we met in the street or in a public house is to take an unjustifiable risk.

Negotiability

Merchants have always realized this difficulty and have built up a system of trade references in an attempt to simplify transactions with new firms, while bankers never like to accept a new client without a personal introduction. This tends to slow down transactions, but there is one class of commodity where we simply cannot be always asking, "Is this honestly yours, who had it before you?" and that is money. It is nearly all second-hand, someone has generally had it before, and if an inquiry into the antecedents of every pound note had to be made before accepting it, business and everyday life would be very difficult. Therefore traders have adopted a different idea with money and documents representing money, namely that anyone who receives it honestly and in exchange for value is assumed to be the true owner, no matter if the person from whom he got it, stole it and is afterwards convicted. This is the essence of negotiability. Does the person who obtained money or documents representing money honestly, and for value, from a convicted thief, gain a good title? If he does, then what he got was a negotiable instrument.

The negotiable instruments we all know and handle are coins and banknotes. Cheques are commonplace in business, so also are bills of exchange. Others,

less frequently met with, are promissory notes, Treasury bills, Exchequer bonds, bonds of foreign and colonial governments and dividend warrants, and the list tends to grow as stockbrokers, bankers, and merchants find it advantageous to treat other documents as equivalent to money.

Miller v. Race, 1758. This old case illustrates the principle of negotiability very clearly. A stolen banknote came into the hands of Miller *bona fide* and for value. He handed the note to the bank for payment which was refused on the grounds the note had been stolen. Held that Miller was entitled to the value of the note.

On postal and money orders one can read *not negotiable*, and everyone who accepts one of these without knowledge of its antecedents does so at his own risk. IOU's are not negotiable, being merely admittances of liability, and cheques and other documents can be made to lose their negotiability by writing "not negotiable" on them. These words therefore are a warning to anyone to whom they pass to be sure of the *bona fides* of the person offering them.

Bills of Exchange

Though not now so frequently met with in ordinary business, a bill of exchange is one of the most important of commercial negotiable instruments. The law concerning it has been collected in the Bills of Exchange Act (1882). What is a bill of exchange?

Suppose we create three people, D. Draper who wants to buy goods but cannot pay for them until some have been sold, M. Merchant, who wants to supply Draper with goods but wants the money now, and B. Banker who has money which he wants to set to work, i.e. to earn interest.

A bill of exchange satisfies all three. M. Merchant initiates it. Suppose the amount of the goods is £95 6s. 4d. Merchant goes to a head post-office and buys a blank bill form paying 1s. for the embossed stamp duty. (Unlike a cheque which always has a 2d. stamp, a bill of exchange has a pro-rata stamp duty, 2d., £10 or under, 3d. over £10 and up to £25, 6d. up to £50, 9d. to £75, 1s. up to £100, and 1s. for each £100 or part of a hundred. A sight bill payable on demand or within 3 days needs only a 2d. stamp like a cheque. Note also that inland bills of exchange must be on pre-stamped paper—an adhesive stamp is only legal for foreign bills.) He writes out the form in this wise:

<p>1s. stamp</p> <p>Three months after date pay me or my order ninety-five pounds six shillings and fourpence value received.</p> <p>£95 6s. 4d.</p> <p>To Mr. D. Draper</p> <p style="text-align: right;">Draper's Address.</p>	<p>Merchant's Address</p> <p>Date.</p> <p>M. Merchant.</p>
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This is now termed a draft, and Merchant forwards it to Draper, who writes across it "Accepted, D. Draper." The draft now becomes a bill, and Draper returns it to Merchant.

Assuming that he wants the money immediately he endorses it like a cheque,

by writing his name on the back, and takes it to his bank manager, who, if he is assured of the integrity of M. Merchant (whose account he keeps) or D. Draper, with whose banker he can communicate, will advance £95 6s. 4d. less interest for three months at about 5 per cent per annum. Note the word *or* in the last sentence. The peculiar advantage of a bill of exchange from the holder's point of view is that all the parties are successively liable if the drawee (Draper) does not honour the bill. In this case there are two (Draper and Merchant), consequently the banker can feel doubly secure that his loan will be repaid. A bill can be sold to persons other than a bank. Certain firms, termed bill-brokers, concentrate on dealing in bills.

Now we can study the definition of a bill of exchange, as given in the Act. "A Bill of Exchange is an unconditional order in writing addressed by one person to another, signed by the person giving it, requiring the person to whom it is addressed to pay on demand, or at a fixed or determinable future time, a sum certain in money to or to the order of a specified person or to bearer."

This definition should be learnt by heart because each word is important. Let us dissect it.

"Unconditional"; if any condition is attached the bill is void. "Order in writing"; part could be printed or typed, but the signature must be written in ink or pencil on paper or some non-metallic substance. "Addressed by one person to another"; the drawer, to the drawee, afterwards known as the acceptor. "To pay on demand"; this is known as a sight bill. "Or at a fixed or determinable future time"; either a fixed period after a given date or sight usually given in days or months (if the latter, calendar months are understood), or a fixed period after some event which is bound to happen. "A sum certain in money"; an exact but not approximate amount, which can be by instalments if desired. "To or to the order of a specified person"; known as the payee; often the drawer is payee as well. "Or to bearer"; where it is intended that the bill should be negotiated this phrase is sometimes used, avoiding the necessity for endorsement.

To refer to Merchant's draft again, this was dated. Bills nearly always are to indicate when the appointed period commences. But an undated bill would still be valid, so would one dated on a Sunday (usually a *dies non* in law) or antedated, or postdated.

Also Merchant wrote "value received" on his draft. This is done to prevent any dispute arising as to the debt (a common way of postponing payment is for a debtor to challenge the amount or to dispute the delivery of goods). But these words are not necessary. The mere act of accepting a bill would estop the acceptor from denying the amount owing. Speaking of this it may be noted that any ordinary consideration, suitable for a simple contract, will be sufficient for a bill, also a past consideration, a previous debt or liability. This exception to the general rule has already been mentioned.

Days of Grace

After the period named on the bill has expired, three days of grace are allowed. This is a relic of ancient days, but it is still in force to-day. The bill should be presented for payment on the third day of grace. But what if this is a Sunday? The Act provides for that. If the third day of grace falls on a Sunday, Good Friday, Christmas Day, or a day stated by Royal

Proclamation to be a public fast or feast day (e.g. funeral of the monarch), the bill is payable on the preceding business day. If the third day is a Sunday, and the previous day a bank holiday, or when the third day of grace is a bank holiday, the bill is payable on the succeeding business day, the Monday. "Sight" bills, payable on demand, have no days of grace.

Who Can Make a Bill

Anyone who has capacity to make ordinary contracts can be liable on a bill of exchange. You will remember that infants have no general power to make contracts but can be held liable for contracts for certain necessities. An infant is never liable on a bill even if he gives it in exchange for necessities. That is, he could not be sued on the bill. The creditor would have to prove the original debt was for absolute necessities.

Liability on Bills

The general rule is that anyone who accepts, signs, or endorses a bill can be held successively liable. The acceptor is primarily liable but if he does not meet it, the drawer becomes liable. If the drawer has sold it to someone (i.e. negotiated it) and that someone to another, then both of these may be liable in turn if the acceptor or drawer does not meet it, as each would have to endorse it before passing it on. Companies can be liable, and in order to distinguish that it is the company's bill and not his own, the person who signs it on behalf of the company, must indicate that he is merely acting on behalf of the company. Suppose John Jones is cashier of the Atlas Furniture Stores Ltd., and before negotiating a bill he endorsed it, "John Jones, cashier, Atlas Furniture Stores Ltd." Here "cashier" merely serves to pick out this John Jones from many other John Joneses, and he would be personally liable. To avoid this he must write, "For the Atlas Furniture Stores Ltd., John Jones, Cashier."

If a person has fraudulently been induced to sign a bill, and can prove it, he is not liable.

Lewis v. Clay, 1898. A man was induced to sign a bill on the pretext that he was witnessing the signature above. Held he could deny liability.

Accommodation Bills. Where a person signs a bill merely to accommodate a friend, no consideration having passed, no liability attaches to such a person unless consideration later passes.

Gambling Debts. The creditor cannot sue the loser on a bill of exchange or cheque accepted to pay a debt for gaming or gambling. But should the instrument pass into the hands of a third party, without knowledge of this fact, he can take action to enforce payment.

Acceptance. You will remember that D. Draper wrote the words "accepted D. Draper" across the face of the bill and sent it back to M. Merchant. An acceptance is of no effect until it is "delivered." Where an acceptance is written on a bill and the drawee gives notice to the person entitled that he has accepted it, the acceptance then becomes complete and irrevocable.

Suppose the drawer or the acceptor signs the bill, but before he signifies his intention it is stolen. No liability attaches to the person from whom it is stolen as it has not been "delivered."

If Draper signs his name, with or without the word "accepted," it is

termed a general acceptance, but he can qualify his acceptance in five ways : (a) Conditional—subject to a named condition. (b) Partial—accepting to pay part of the sum only. (c) Local—payable at . . . *only*. (d) Time—making some different time limit, four months instead of the three named. (e) Individual—where there are more acceptors than one, and only one accepts. If the drawer does not like the qualified acceptance he can treat the bill as dishonoured (see below). If the drawee will not accept, another person may accept " for honour *supra protest*." Such a person agrees to pay the bill if the drawee does not and if he is given full and complete warning of this refusal.

Endorsement

When the bill was accepted by Draper, Merchant took it to his bank. The bank then became a " holder in due course " and would hold the bill till maturity. But suppose instead that Merchant had used it to pay one of his own debts to A.N. Importer, who used it to pay one of his to A. Shipper, who took it to a billbroker. Importer would endorse it by writing his name on the back (it could be written on the front, but the back is the more usual place, and less likely to result in confusion). If he simply wrote, " A.N. Importer " his endorsement would be *in blank*, but if he wrote " Pay A. Shipper, A.N. Importer " this would be *specially endorsed*. If he added the word " only " to Shipper's name it would be *restrictively endorsed*. The effect of the special endorsement would be that Shipper *must* endorse it before it can be handed in, and the restrictive endorsement means the bill cannot again be handed on. *Sans recours* added to an endorsement means the signer absolves himself from any liability.

If there are too many signatures to go on the back, a slip of paper termed the *allonge* is gummed on and used.

Holder in Due Course. Any endorsee or bearer is a holder in due course if he got the bill before it was overdue ; he got it before he knew it had been dishonoured ; he got it bona fide and for value ; he knew of no defect of title in the person from whom he got it.

A holder in due course is not affected by any defects in title of former holders and may sue any person liable on the bill. Forgery makes the bill inoperative. The forger cannot sue on the bill or pass any title. A transferee can only sue the one from whom he got it for breach of warranty and not on the bill itself.

Material Alterations. If a bill has been materially altered, i.e. in one of the principal terms, the amount, the date, or the tenor, it ceases to be valid, except against the person who altered it and anyone who endorsed after him.

Dishonour. If Draper had not accepted the bill, or if he had not paid it when it was due, the bill would be dishonoured. Suppose that Shipper holds the bill when payment becomes due. He takes it to Draper who says he cannot pay. Shipper must now immediately inform in writing Merchant and Importer or they cannot be held liable. The Act lays down when this notice must be sent ; if the parties live in the same town, it must be given or sent in time to arrive on the day after dishonour ; if in different towns it should be posted on the day after dishonour.

Noting and Protesting a Dishonoured Bill. Inland bills should be, and *supra protest* and foreign bills must be, taken the same day or at the latest the next day to a notary, who again presents it personally, and enters it, and gives a

certificate proving its dishonour. This may either be an informal note on the bill itself or a formal protest stamped with a shilling stamp or an amount equal to the original stamp duty if less. The protest gives a copy of the bill, the reason why dishonoured, the date and place, and the person for whom it has been protested. If there is no solicitor available a householder supported by two witnesses should do likewise.

Discharge of a Bill. With a normal bill the acceptor pays and the bill is discharged. If any other person named in the bill pays, he can afterwards sue the acceptor or any signatory prior to his own. An accommodation bill is discharged when the party accommodated pays. The acceptor may buy back his own bill. This is the same as paying it, and discharging it. A holder in due course may renounce his rights in writing, or by delivering the bill back to the acceptor, or to his executors if he is dead, thereby discharge it. The holder may deliberately cancel it; if he cancels it accidentally the mark has no effect on the bill.

Cheques

The act states, "A cheque is a bill of exchange, drawn on a banker, payable on demand." Normally banks provide blank (but already stamped) forms for use by the customers, and state that the use of the forms is the condition on which they keep accounts. Legally cheques could be made on blank paper, and stamped by a 2d. adhesive stamp, but if the bank accepts your account on condition that you use their prepared forms you must do so.

A cheque is a bill of exchange, but it is a particular type, and differs from an ordinary bill in these respects:

1. A bill must be accepted before there is liability. A cheque is never accepted.

2. A bill must be presented for payment or the liability ceases. The non-presentation of a cheque does not discharge liability. But banks normally treat old cheques as stale when they are over six months old, and the creditor will have to get the drawer to re-date it or issue a new cheque.

In the unlikely event of the failure of a bank in which a client had sufficient funds to meet a cheque which the holder delayed to present, it would be unfair to let the drawer suffer. He had sufficient funds when he drew the cheque and before the bank failed so the loss will fall on the holder, who must rank as a creditor of the bank.

3. There is no obligation to inform the drawer if his cheque is not honoured by the bank, but the sensible creditor would take this step immediately.

Crossed Cheques. The drawing of two lines across the face of a cheque, with or without the addition of words, makes it a crossed cheque which may not be paid by the banker to a customer. It will only be paid to another banker. A specially crossed cheque will only be paid to a named banker, or if crossed "A/c payee only" will only be paid into a specified account. A banker neglecting to obey this instruction would be liable if the cheque was stolen or lost. Crossing makes the cheque safer as it can only be cashed by a person with a banking account, and such men are easier to trace than casual callers at a bank's counter.

A crossing is an essential part of a cheque, and may only be cancelled by the drawer, but anyone can cross a cheque, the drawer, the payee, or the banker.

Not Negotiable. As with a bill, this crossing renders the title of a holder of a cheque no more valid than that of the person from whom he got it. If I make out a crossed cheque to X who loses it or has it stolen, and it comes into the possession of Y who uses it to pay Z, who accepts it bona fide and for value, then Z has got a good title if the cheque has an ordinary or special crossing, but has no title if the cheque is marked "not negotiable".

Banker's Liability. The banker is either the creditor or the debtor of his client, depending on whether the latter is overdrawn or in credit, but since the banker is keeping an account for his client he must necessarily do this without negligence or he would be in danger of damages. He must pay cheques drawn on him if the customer has sufficient funds, or if an overdraft has been arranged, otherwise the customer could claim damages for breach.

Marzetti v. Williams, 1830. A banker refused to meet a cheque drawn on him by the customer. Held that he is bound to do so, and failure may lead to an action for damages.

Liability of Customer. The Customer must take precautions against fraud.

London Joint Stock Bank v. Macmillan and Arthur, 1918. A clerk of Macmillan and Arthur filled in a cheque for signature with the widely spaced figure for £2 os. 0d. but no amount in words; when the cheque was signed he altered the amount to £120 and filled in the words and cashed the cheque. The firm claimed they should be debited with £2. Decided that they should be debited with £120.

The Court of Appeal dismissed the appeal and the defendants appealed to the House of Lords. Lord Finlay, in giving judgment, said "The customer is bound to exercise reasonable care in drawing the cheque to prevent the banker being misled . . . the customer is bound to take the usual and reasonable precautions to prevent forgery."

The firm did not use sufficient care, and therefore the bank was not liable.

Forgery. A banker who pays on a forged signature will be liable. He should know the signatures of his clients, and if he pays a cheque purported to be signed by one of them, but which is actually a forgery, the loss will fall on the banker. But he is not supposed to know all the people with whom his client does business, so if he pays on a forged endorsement he is not liable.

No Assets. If a banker pays a cheque to a client, and immediately afterwards finds he has no assets, he cannot claim back the money which the customer has accepted. In the case of *Chambers v. Miller* the man was counting the money a second time when the overdrawn state of the account was discovered. It was held that the banker had no right to take back the money. If the banker pays a cheque on behalf of the customer and afterwards finds his account to be in debit he cannot claim back the amount.

Stoppage of Cheques. A cheque can always be stopped up to the moment of payment by giving notice in writing to the bank. If you make out a cheque and it is stolen before you dispatch it you would naturally phone, but to protect himself, the banker would require your countermand to be confirmed in writing otherwise he might stand in danger of an action for damages. A cheque is also stopped by the death of the drawer, his bankruptcy, his lunacy, or by the serving of a legal injunction, or a garnishee order.

Post-dated Cheques. These are presumably legal if not more than £10. If over £10 they are insufficiently stamped, and therefore must not be negotiated

till the due date, or the drawer might render himself liable under the Stamp Act.

Limitation Act, 1939. You will remember that this does not extinguish a liability but prevents an action being initiated to recover a statute barred debt. It is thought that the Act does not apply to current accounts, but does to deposit accounts, if no action is taken for six years. But, in practice, interest would be added half yearly, hence some action is taken, and this is not a great danger for the depositor.

Promissory Notes

Promissory notes are not now used so much in business except in money-lending transactions. A promissory note is "an unconditional order in writing made by one person to another signed by the maker, engaging to pay, on demand or at a fixed or determinable future time a sum certain in money, to, or to the order of, a specified person or to bearer."

It is on stamped paper, as a bill of exchange, but the stamp duty always varies with the amount (a sight bill always has a 2d. stamp, a sight promissory note is stamped according to value).

Note that there are two parties not three, and that the debtor is the maker, not the creditor. Suppose we refer to our earlier transaction and Merchant agrees to accept a promissory note instead of a bill. It would read :

1s. stamp

Draper's address

Date

Three months after date I promise to pay Mr. M. Merchant the sum of ninety five pounds, six shillings and fourpence value received.
£95 6s. 4d.

D. Draper

Draper is the maker, and Merchant the payee. Merchant could endorse and negotiate it to Shipper and the same liabilities would attach to each signatory if payment were refused in due course by Draper.

Generally speaking it is like a bill of exchange except that there is no presentation for acceptance.

Bank Notes. These are promissory notes, made by a banker and payable on demand. They are not stamped, and now, as far as England and Wales are concerned, are issued only by the Bank of England.

SELF-TESTING QUESTION

The following items are stolen and afterwards negotiated by the thief to an innocent third party who accepts them bona fide and for value : a generally crossed cheque value £3 os. od. ; a specially crossed cheque, marked " not negotiable, Westminster Bank " ; a gold watch and a postal order for 21s. The thief is convicted. The owners apply to the third party for restitution. How does he stand ?

The answer to the question is on page 620.

LESSON TEN

BANKRUPTCY

THE idea behind bankruptcy practice is that an insolvent person should be relieved from liabilities from which he cannot possibly extricate himself, and that his available property should be fairly distributed amongst his creditors.

The law is contained in the Bankruptcy Act of 1914, supplemented by the Bankruptcy (Amendment) Act, 1926, and various leading cases. It is administered by the County Courts in the provinces and by the High Court in London.

Practically anyone with general capacity to contract can be made bankrupt, but an infant probably cannot, unless the debt were for necessities or the result of a summary fine, but even this is not certain. A married woman now can. A person of unsound mind can, as a result of acts committed when sane, but only with the approval of the Court of Lunacy. A limited liability company cannot; it goes into liquidation instead. A convict can, even if in prison. An alien can, if his main business is in this country.

The Petition. A person may become bankrupt as a result of his own petition or as a result of a petition from one or more of his creditors. If the person states himself to be insolvent a receiving order is generally made at once if the court feels it to be a genuine petition. A man once asked for an order to be made to escape payment of judgment debts, but as he was obviously trying to avoid going to prison for non-payment, this was withheld.

If a creditor wishes to petition he must show:

1. That the debt due to him, or to himself and others, is £50 or more.
2. That the debt is a fixed or ascertainable amount.
3. That the debtor is either living in England, or is ordinarily resident there, or has a business there.
4. That an act of bankruptcy has been committed within three months of the presentation of the petition.

Acts of Bankruptcy

Acts of bankruptcy are summarized below.

1. If the debtor leaves England, or stays away from England, or absents himself from his usual house or business place. In short if he tries to evade his creditors. A man might conceivably stay in a foreign country to earn money to pay his creditors. He might absent himself from home and business for other personal reasons, but leave a manager or clerk to look after his business; this is not an act of bankruptcy.

2. If he assigns his property to a trustee for his creditors, or if he attempts to give or transfer part of his property to defraud his creditors, or if he makes one or more of his creditors fraudulently preferential (i.e. tries to pay someone his debt in preference to the others, with fraudulent intent).

3. If he files a declaration that he cannot pay his debts, or tells his creditors orally or in writing that he cannot pay; or if his goods have been seized in payment of a judgment debt (this is termed an *execution*) and the goods, after 21 days, have been sold; if he cannot satisfy a final judgment

after a creditor has served a bankruptcy notice on him to pay a judgment debt.

4. If the debtor himself files his petition.

The Hearing. Within eight days of the filing of the petition by the creditor, or immediately if the debtor files his own petition, the hearing takes place. The petitioning creditor must attend the hearing and prove his debt, state the act of bankruptcy and show that a copy of the petition was served on the debtor.

If the court is not satisfied the creditor's petition will be dismissed; but if the debtor presents the petition and states he cannot pay his debts, the debtor is immediately adjudged bankrupt and the receiving order made. The bankruptcy petition is registered.

Receiving Order. This, as it were, "freezes" the debtor's property, and is advertised in a local paper and in the Gazette, and is served on the debtor. Its effect is to make the official receiver the protector of the property, and ordinary creditors cannot sue the debtor, and legal proceedings against him are held up. Secured creditors (those in a legal preferential position, see below) can still act. A landlord can still distrain for rent, one with a bill of sale can still seize the goods.

The receiving order is also registered, but may be rescinded if the creditors are fully paid or if they decide to accept a composition and the petitioning creditor agrees.

Statement of Affairs. When the receiving order is made the debtor is under the supervision of the official receiver. He must make a statement of affairs if after his own petition within three days, or after a creditor's petition, within seven days, unless an extension is allowed, as for example, in case of illness. Later he must attend for Public Examination unless the receiving order is rescinded.

He must attend the Creditors' Meeting (the first, if more than one, within fourteen days of the order). He must not remove any of what was his own property without permission.

Creditors' Meeting. Any creditor or his agent may inspect the statement of affairs, and the meeting of the creditors follows soon after this becomes available, usually within 14 days of the making of the receiving order. This meeting decides whether the debtor shall be bankrupt or whether a composition (so much in the pound) shall be accepted. Creditors must prove their debts as their right to attend, secured creditors must either forego their security or state the amount for which they are secured, and vote on the remainder.

The official receiver (or someone specially appointed by him) presides, and the debtor is present. Creditors vote according to value of their proved claims either in person or by proxy, and also by numerical majority. The statement of affairs is considered and the creditors decide whether:

1. They will accept a composition of so much in the pound (if 12s. 6d. in the £ a creditor who is owed £10 would get $10 \times 12s. 6d. = £6\ 5s. 0d.$) or they will agree to a scheme to straighten out the debtor's business. One of these is usually done if the debtor has acted fairly and honestly. For these decisions creditors representing three-quarters of the total debts must be in favour, in addition to a numerical majority (e.g. six in favour, five against).

2. They will insist on bankruptcy. The bankruptcy resolution can be carried by creditors representing a little over half of the total debts. (If he owes £600, creditors representing £301 could carry a vote for bankruptcy.)

Adjudication. If the composition as suggested is accepted and paid the receiving order is rescinded and bankruptcy proceedings are terminated, but if no agreement is reached, or if the bankruptcy resolution is carried, or if no creditors' meeting is held, or if the debtor attempts to get away, he is proclaimed bankrupt in the Gazette.

The debtor must do all in his power to assist in the clearing up of his affairs, the realization of his assets, and their distribution amongst the creditors. Within four weeks of the adjudication the creditors may appoint a trustee to do this on their behalf, but if they do not the official receiver does it. Usually where small amounts are involved (£300 or less) the official receiver, a Board of Trade official, acts as trustee.

Public Examination. All bankrupts go through this, in open court, and on oath. They may be, and often are, questioned by the official receiver, or the creditors, as to their modes of living, recent purchases, general business conduct and so on. The creditors' usual complaint is that the debtor went on making purchases when he must have known he was insolvent, consequently increasing his liabilities. This is due to the Micawber strain in all of us, constantly expecting something to turn up, even at the last minute, which will save the situation.

The debtor must now behave very circumspectly. What was his is not now his. His very correspondence can for three months be redirected to the official receiver. He can be put into prison if he :

1. Attempts to abscond.
2. Removes or attempts to remove any goods, or conceals or destroys goods, books, or papers, which might be of use to the creditors.
3. Takes away any possession to the value of over £5.
4. Fails to attend any court examination.

Appointment of Trustees

Usually a person appointed by the creditors, and certificated by the Board of Trade, the trustee takes possession of all the bankrupt's assets, and makes a full and complete list of all the secured and unsecured debts. If the bankrupt was in a big way of business, a small committee of inspection may be appointed to keep a check on the trustee, to authorize the carrying on of the business pending sale or winding up, or to sanction legal proceedings which may be thought desirable.

The trustee's duty is: to realize all the assets; to pay preferential claims; to distribute the remainder as soon as he can; to accept nothing from the estate but the agreed sum.

All money received by the trustee is paid into a special account at the Bank of England, unless the Board of Trade give permission to open an account in a local bank.

The trustee can instruct the bankrupt to carry on his business till all is settled, and make him an allowance for his work, or can appoint someone else to do it.

Trustee's Title. Generally any transactions and payments made by the

bankrupt before the receiving order are valid, providing they are done in good faith, but in order that the trustee can claim the benefit in doubtful cases his title to the bankrupt's possessions dates back to the act of bankruptcy committed within three months before the receiving order, and upon which the petition was based.

Realization of Assets. Before he can pay off the creditors the trustee must turn the assets into money. To do this he has very wide powers, being able to sell privately or by auction, to mortgage or pledge the bankrupt's goods, to collect debts due to him, to employ legal aid to enforce his rights, to accept arbitration, to make compromises with creditors, and to negotiate the distribution to a creditor or creditors of some asset which cannot be sold.

Practically any of the bankrupt's property can be disposed of except the tools of his trade, necessary clothing and bedding of himself and children valuing not more than £20, and government social welfare pensions and payments, such as Old Age, and National Health Insurance.

Reputed Ownership. A creditor, anticipating an insufficient sum of money to pay his debt, might prefer the goods or chattel itself, rather than rank for dividend. For instance suppose you supplied a new typewriter six months before the receiving order, and have not yet been paid, the machine might be worth more to you than the anticipated payment. Hence you might try to claim it back. The prevalence of instalment purchases for furniture, equipment and machinery leads also to difficulties. The bankrupt might have been using a car for his business, for which he has not yet completed the payments. How do the trustees stand over these and similar goods which may be in his possession?

The general principle is that at the time of the receiving order all goods in the bankrupt's possession, which he has power to dispose of, and in the case of which he passes as reputed owner, with the true owner's permission, are available for distribution.

In certain trades goods are not necessarily the property of the apparent owner, and there is a trade custom to this effect. Certain tradesmen sell goods on sale or return, others have hired furniture in their possession, some may have goods belonging to their clients in their possession (e.g. a motor garage proprietor may be cleaning my car). These goods are obviously not available for realization, but the court must be convinced that there is a custom of the particular trade to that effect.

An interesting point arises here. Suppose X, not being in business, goes bankrupt. He has a car for which he has not yet paid. The trustee would assume he was the reputed owner, and sell the car, and the car-creditor would merely get his share with the others. Supposing Y, being in business, goes bankrupt. He has a car, for which he has not yet paid, which he bought privately, but uses occasionally for business. Here the trustee could not realize on it, as it is not primarily in reputed ownership for his trade, and the reputed ownership rule applies to traders not to private persons.

Fraudulent Transfers. The trustee has also the power to study transactions of the bankrupt in the period well before the receiving order to see whether anything in them had then been done to benefit some person at the expense of the creditors. For example an insolvent person might have paid some creditor off in full, perhaps because he was a relation or friend. If this happened within

three months of the receiving order, and if the trustee found, from the bankrupt's books, that he was then unable to pay his other normal debts as they became due, this would be termed a fraudulent preference and the amount reclaimed. But amounts paid under threat of legal proceedings, or even under moral obligation, are not recoverable; they must be paid freely by the bankrupt, with fraudulent intent, to be recoverable. Voluntary settlements, on a wife, brother, friend, child, are always suspect. But they must be voluntary, the consideration being natural love and affection; any real and valuable consideration justifies them. For instance a person who made a marriage settlement *before* his marriage could claim his wife was real consideration for that settlement, and fraud would have to be obvious before the trustee could repudiate it.

Apart from these, all voluntary settlements made within two years of the receiving order are void, those made within ten years are void unless it could be proved that the person was then absolutely solvent.

Distribution of Assets. When all the assets have been turned into money the trustee may proceed to distribute among the creditors. He must treat the following as preferential:

1. The bankruptcy expenses, to be paid in full.
 2. All rates and taxes due in the preceding twelve months.
 3. Wages of clerk or servant for not more than four months, and not exceeding £50.
 4. Wages of workmen for a period of not more than two months and not exceeding £25.
 5. Some agricultural workers are paid annually; these are fully preferential.
 6. Any sums due, not exceeding £100 in each case, in respect of workmen's compensation.
 7. All National Health Insurance contributions for employees in the four preceding months.
 8. Apprentices may have a proportionate amount of the premium repaid.
 9. The landlord becomes preferential if he distrains within three months of the order realizing the assets, and paying the preferential creditors.
- When the preferential creditors are paid the balance is available for equitable distribution among the other creditors, the amount of the dividend being stated to the creditors, the Board of Trade, and given in the Gazette.

Discharge

The bankrupt can apply for discharge to be granted at any time after the public examination is made. Whether it will be granted depends on his conduct before and after the receiving order, whether he had kept proper books, whether he had lived extravagantly, whether he had behaved *bona fide* throughout. It cannot be granted immediately if:

1. The estate has not paid a dividend of 10s. in the £ to ordinary creditors unless this is due to circumstances for which the debtor cannot be held justly responsible.
2. Where the bankrupt has not kept proper books.
3. Where he has continued to trade after becoming insolvent.

4. Where he has contracted debts he was not likely to be able to pay.
5. Where he cannot account for missing assets.
6. Where he has been reckless, extravagant, or neglectful.
7. Where he has caused more expense to creditors by frivolous or vexatious actions or defence against actions of a similar nature.
8. Where he has made fraudulent preferential payments.
9. Where he has increased his indebtedness in the three months before the receiving order with a view to making his assets 10s. in the £.
10. Where he has been bankrupt before or made a composition before.
11. Where he has been guilty of any fraud.

Generally the discharge is granted or postponed for a specified period. It is merely for the first reason the postponement is for two years or less.

Effect of the Discharge. This relieves the bankrupt of past debts save those due to the Crown, those due to his own fraud, judgment debts for affiliation, seduction, or separation.

Undischarged Bankrupts. Before the discharge is granted, a bankrupt may not sit or vote in Parliament, be a J.P., sit as a councillor, alderman, or mayor, or act as a director of a limited company without special permission. He may not obtain credit for £10 or more, without disclosing that he is an undischarged bankrupt and if he does so he is liable to one year's imprisonment. Nor may he trade under an assumed name without revealing that he is an undischarged bankrupt.

Small Bankruptcies. Where the amount of indebtedness is £300 or less there is a simplified procedure with no committee of inspection and usually no trustee, as the official receiver deals entirely with the case. Where the amount is less than £50 and a judgment is obtained in the County Court which the debtor cannot pay, the County Court may itself make an order for the administration of the estate, and the payment of the debts from the proceeds of this, or by instalments.

Deeds of Arrangement. These are generally made to benefit both debtors and creditors in cases where there is nothing but misfortune to blame. The debtor benefits by the lack of publicity, and the creditor by expense which would reduce his dividend. They are registered with the Registrar of Bills of Sale within seven days of the making of them. The five main types are :

Assignment. Here the insolvent debtor transfers the whole of his estates to a trustee who realizes it and distributes the assets.

Composition. The debtor agrees to pay so much in the £ either as a lump sum or by instalments. In return the creditors agree to forego their rights to the whole sum.

Inspectorship. Here the debtor agrees to carry on his business under the supervision of an inspector or trustees appointed by the creditors.

Licence. The debtor is authorized to carry on or dispose of his business to pay the creditors.

Agreement for carrying on or winding up the debtor's business with a view to the payment of his debts.

SELF-TESTING QUESTION

Who may present a petition in bankruptcy, and with what qualifications ?

The answer to the question is on page 620.

LESSON ELEVEN

PATENTS, TRADEMARKS, AND COPYRIGHT

A PATENT is a grant from the Crown by letters patent to the inventor of a new process giving him the sole right of making it, using it, or selling it, for a specified period.

Suppose you think out a device to avoid glare from the headlights of approaching vehicles. Your reward for doing this is the conferment of the privilege of sole manufacture for a certain length of time. It appears right that you should benefit by your industry, and it is beneficial to the country as a whole that inventors should be encouraged. But it would not be right to give you the sole right to make it in perpetuity : it might obstruct progress, it certainly would tend to reduce the beneficial effects of your invention ; consequently a time limit is fixed.

What may be Patented

In order for a patent to be granted it must be (a) an invention ; (b) something novel ; (c) something useful.

It is important that you should have made an invention, not a discovery ; you could not patent the discovery that air contains nitrogen, but you could patent an invention to extract nitrogen from the air.

Your invention may be something entirely *new*, as for example artificial silk, or it may be a newer method of doing an older process, as Arkwright's " Throstle " was in cotton spinning, or it may be a novel combination of two previous inventions, as Crompton's " Mule ", combining the root idea of Hargreave's " Jenny " and Arkwright's " Throstle ". It must be new. If it is already known, has been used, or published, no patent will be granted unless the inventor was merely testing it, or it became known through abuse of confidence, or the trials by other people did not accomplish what the inventor eventually did.

Your invention must be useful. But useful is a wide term. If the new invention does what the inventor claims it will do, it will be held in law to be useful.

Apparently anyone may ask for the grant of a patent, even an infant. Two or more may apply, or a company, but one must state that he is " the first and true inventor ".

It has been held that a person who has seen the idea in another country may apply here stating he is " the first and true inventor ", whereas he is not, being merely the first introducer of it to this country.

Application for a Patent

This is better done through a patent agent, but for the purposes of this lesson it is assumed that the inventor does it himself.

The form may be obtained from head post-offices. It is a declaration that the person is the first and true inventor, and that to the best of his knowledge and belief the invention is not in use by any other person. If he can, he sends also the *complete specification*, which gives full information as to the nature and construction of his device so that a competent person could under-

stand it and a competent workman make it. It is, as it were, a blue print of the invention. But it may not be possible to do this. The inventor may be afraid that something has leaked out, and so, in order to cover himself from this danger, he makes a provisional specification, stating the nature and purpose of the invention, but not giving constructive details. If the latter course be taken, twelve months with a possible extension to thirteen, are allowed for the complete specification to be presented, otherwise the application is said to have lapsed.

The comptroller now advertises that the new device is under examination and the examiner from the Board of Trade studies it in the light of similar approved applications to see whether it is an invention, novel, and useful, and not covered wholly or in part by previous patents.

If the comptroller refuses to accept the application an appeal may be lodged with the Attorney-General.

Provisional Protection. After the application has been accepted the inventor may publish and use the device. He may market it; you have probably noticed "patent applied for" on things you have purchased. The applicant is given the rights and privileges of a patentee for the immediate present but he cannot sue for infringement until he gets his patent.

Objections to Grant. Within two months, or by the comptroller's permission, three months, of the advertisement any person who thinks himself interested may oppose the grant of the patent on one of these grounds:

1. That the invention belongs to him.
2. That the invention has already been patented, or is under consideration by the comptroller.
3. That the invention has already been published.
4. That it is not sufficiently described.
5. That the provisional and complete specifications do not tally.

If an objection is lodged the comptroller hears both sides and gives his decision subject to an appeal to the Attorney or Solicitor General. If no objection, or if he decides in favour of the original appellant, the patent is sealed, dating back to the date of the application.

Naturally the holder of a provisional protection cannot sue for any infringement made before the advertisement of his complete specification because no one would know exactly what he was infringing.

The patent is good for sixteen years subject to an initial payment of £1, and payments for the fifth and ensuing years of the same number of pounds as years, i.e. the 12th year £12, the 16th year £16.

To lapse the patent all that is to be done is to fail to pay the fees. If an inventor feels he has not had sufficient benefit from his device he may apply to the High Court for an extension of time, but this application must be well justified before it is granted.

Infringements. Any infringements of his patent give the patentee the right of claiming an injunction and damages. Even if an article is imported (i.e. made abroad) which infringes, an injunction will be granted. But to make it clear that the article is patented it should bear, in addition to the word "patented," the year and number of the patent. It is an offence to stamp anything as patented when it is not. An interested party may apply to the court for the patent to be revoked on the ground that it was his own invention,

i.e. that he made or used it publicly first. If he wins his case the patent would be transferred to him. If a patented article is manufactured abroad, any person may ask for revocation on this ground, which may be granted unless a guarantee, satisfactorily implemented, is given to make it in the United Kingdom.

Assignments. Any patent may be assigned to other persons, who then have the same rights as the original patentee. This assignment should be registered at the Patent Office.

Licences. A patentee may grant licences to make use of his patent ; these may be limited in scope (only part of the invention to be made or used) or by area (only to be made, used or sold in a certain district).

Copyright

Copyright is the sole right to produce, reproduce, perform, to convert into another form, to record mechanically, any original work whatsoever.

It is governed by the Copyright Act, 1911, and extends to literary, dramatic, musical and artistic work. It covers translation into another language, conversion of a novel into a play or vice versa, conversion of either into a film, reproduction of music mechanically, and extends to all parts of the British Empire, if the original work had its first publication within the Empire, or if the author of the unpublished work was either a British subject, or resident in the Empire. It has recently been held to extend to broadcasting (*Messages v. B.B.C.*).

Duration of Copyright

The copyright extends for the lifetime of the writer and fifty years after his death. But after the author has been dead 25 years, or in the case of a work copyright when the act was passed, 30 years, there is no infringement of copyright if the publisher gives notice in writing, and pays 10 per cent of the price to the owner of the copyright.

Licences to Publish. If the holder of a copyright of a work, the author of which has died, refuses to allow it to be republished or performed an appeal is possible and a licence may be granted on conditions.

Ownership of Copyright. Generally the author, the playwright, the photographer, etc., is the owner of the copyright, but where the work was specifically ordered and paid for, the person who gave the order holds the copyright. For example, if I pay to have my photograph taken, unless I agree to the contrary the copyright of my picture is mine, not the photographer's. Work done by an employee in the course of his normal duty is generally the employer's copyright. If you, being a clerk, draw out an advertisement for your employer, he owns the copyright, not you. If you are an advertising agent, and draw out an advertisement to the orders of a firm, the copyright is the firm's not yours.

Assignment. An author may assign his copyright, with or without conditions, to any other person, but the assignment must be in writing and signed by the author. Unless he specifically assigns it in his will for the whole period, any assignment lapses 25 years after his death.

Infringements. An unauthorized publication or reproduction of any work, or of part of it, may be deemed to be an infringement. Generally the injured

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owner, on proving his case, would be entitled to damages and an injunction.

International Agreements. As a result of international conventions, agreement has been reached that British copyright shall be given to nationals of all nations giving British authors their copyright.

Trade Marks

The Trade Marks Act, 1938, now contains the law concerning these important commercial usages. A trade mark is one used to identify goods as the product of some particular firm or person.

Trade marks are now divided into two classes, A and B, and to obtain registration in the former class is more difficult.

Qualifications for Registration

A trade mark should possess one or more of these characteristics: the name of the firm or person shown distinctively; the name of the firm or person as a signature; an invented word; a word or words not referring to the goods, their origin, or use, or quality, nor a geographical name, nor a surname; any other distinctive mark. Words which are merely misspelt English words will not be accepted; "Uneeda" is an example of this. As a matter of fact there are so many difficulties in thinking of a trade mark which the Registrar will accept, that firms exist for the sole purpose of getting applications for trade marks through.

Registration. A form obtainable at head post-offices is used for the application. The firm or person, the mark, the class of goods to which it shall apply are stated, and the form sent to the Registrar at the Patent Office who accepts it or refuses it. If accepted it is provisionally protected, and is advertised in the official Trade Marks Journal. If there is no opposition a certificate of registration is issued on payment of a certain fee.

Assignment. Unlike a copyright which can be assigned to anyone, a trade mark can only be assigned together with the goodwill of the firm or person to which it belongs.

Trade Names. Certain names used by firms or persons before 1875 as distinctive of their goods are not able to be registered because they do not comply with the provisions of the act. "Yorkshire Relish" obviously is a geographical name, but the firm using it has a right to prevent others from using it because it has become identified with them.

Passing off. A person must not pass off his goods as if they are supplied by another firm. I cannot sell my tea as Lyons tea because a person would naturally assume it was blended or packeted by the well known firm of Joseph Lyons and Co. Ltd. Even if my name is Joseph Lyons I must beware lest I cause people to believe they are buying the goods of the better known firm (*Lyons and Co. v. Lyon*, 1932).

SELF-TESTING EXERCISES

1. Discuss whether a patent would be given to the inventor of an electric poker for lighting fires.
2. Explain the differences between assignment of patents, copyrights, and trade marks.

The answers to the exercises are on page 620.

ANSWERS TO QUESTIONS AND EXERCISES**Lesson One**

There was a binding contract from 3.30 p.m. It does not matter whether the letter was delivered or not, providing G can prove he posted it.

Lesson Two

This case is mentioned because the rule is that before a contract can be rightly described as such consideration must move from one party to the other.

In this case Dunlop dealt with Dew. Here there was consideration, therefore in case of breach, Dunlop could sue Dew. Dew dealt with Selfridge. Therefore Dew could sue Selfridge. But Dunlop did not deal at all with Selfridge, there was no consideration, consequently Dunlop could not hope to succeed in any case brought against that firm.

Lesson Three

Debts based on simple contracts are statute barred after six years, but an acknowledgment of the debt and a promise to repay revives the right to action for a period of six more years. In the above case three only have passed, so the creditor could successfully enforce his rights.

Lesson Four

Void contracts are bad from the beginning and have no legal effect. A contract to lend money to an infant is an example. Voidable contracts are those in which one party may avoid the contract if he wishes. The contract of an infant to take shares, and contracts of drunkards are examples.

Unenforceable contracts are those which are perfectly good contracts but cannot be enforced, such as those which lack written evidence. If the written evidence can later be obtained, the contract can be enforced.

Lesson Five

Distinguish in your answer between those contracts in connexion with the sale of goodwill, those of employment and those connected with price maintenance agreement. Horace H would not be bound as the agreement is far wider than is necessary for the protection of the AB Bakery Co. and also because he was an infant at the time he entered into it.

Lesson Six

It is a general principle of law that all the conditions of a contract must be brought to the notice of the parties at the time of making the contract. A statement concerning interest on overdue accounts, printed on the invoice, was presumably not made at the time of contracting.

In this instance the money was due immediately and became overdue after William T had a reasonable time to send the remittance. But not until William T has had notice that payment was overdue does it become liable to interest, hence the amount that could be charged would be calculated only from May 1, namely 4 months and 2 days.

Lesson Seven

(1) Death terminates agency, even if the agent is not aware of this, hence Arthur A is himself liable on the June contract.

(2) A wife is the implied agent of her husband for necessaries. Gowns are

necessaries for women according to their standard of living. Therefore the firm ought to have brought the action against the husband, as he was aware of, and by his presence apparently sanctioned, the purchase.

Lesson Eight

(1) The Act states that goods sold by description should be of merchantable quality, and it has been held in *Morelli v. Fitch* that this necessarily includes containers. A fragile bottle which collapses when opened in the normal manner is not of merchantable quality, consequently the claim would succeed.

(2) Under that which states that when a buyer relies on the expert advice of the seller there is an implied condition that the goods should be merchantable, i.e. fit for that purpose. The motor company must have been able to estimate more accurately than the tramway company whether the chassis was suitable.

Lesson Nine

Define negotiability. Emphasize that with negotiable instruments a bona fide third party obtains a good title.

"Generally crossed cheque"—good title.

"Not negotiable cheque"—negotiability destroyed, no good title.

"Postal order"—made not negotiable by the Postmaster General.

"Gold watch"—not negotiable, of course.

Therefore purchaser has a good title only to the generally crossed cheque.

Lesson Ten

A petition may be presented by a debtor if he thinks he is insolvent, and does not stand to escape judgment debts or committal for non-payment.

A creditor may present a petition if he shows that :

1. The amount involved to himself or to others was £50 or over.

2. The amount is capable of exact statement.

3. The debtor is English, or domiciled in England, or has a business there : except for persons domiciled or having the principal place of business in Scotland or Ireland.

4. An act of bankruptcy has been committed.

Lesson Eleven

(1) To justify a patent it should be an invention, novel, and useful.

We have heard of cookers, fire bells, irons, all of which use electricity in a special way. The electric poker would therefore be valid as an invention.

It must be novel, new, not having been patented or published before. This is a question of fact, which could be discovered by searching through records, or advertising the grant of a provisional patent and waiting for objections.

It must also be useful. "Useful" means it would do what the inventor claimed. If it did, and it probably would, it would be justified on this ground.

(2) A patent may be assigned freely and the assignee has the same rights as the original patentee. The assignment must be registered. A copyright may be assigned, conditionally or unconditionally, for a stated period or for the whole period, by the owner in writing and signed by him. Unless he confirms his agreement in his will it will revert to his heir 25 years after his death.

A trade mark can only be assigned with the goodwill of the person or firm owning it. If the firm goes out of existence so does the trade mark. To buy a trade mark one must therefore buy the firm as well.

SECTION XII

INSURANCE

INTRODUCTION

THE principle of insurance is applied to almost every contingency which a business man encounters, other than purely trading risks. The raw materials reaching him from abroad, as well as the vessel which brings it, are insured against marine risks. If the commodity is conveyed by road from the port of arrival to warehouse or factory, a motor or driving insurance will be necessary in connexion with the vehicle, and the raw material itself can be insured against loss or damage by fire, theft or accident whilst in transit. The warehouse or factory and its contents will be covered by fire and burglary insurance, and if use is made of machinery, boilers or lifting apparatus, the protection of an engineering policy will probably be secured. A business man's liability in the event of an accident to his employees or to members of the public may be substantial ; consequently he will follow the prudent course of effecting Workmen's Compensation, Third Party and Property Owners' Liability Policies. Life, Personal Accident, Fidelity Guarantee, Money in Transit and Plate Glass are other types of insurance which he will find it desirable to arrange.

The negotiations leading up to the issue of an insurance policy are frequently undertaken through intermediaries known as brokers and agents. Primarily a broker is concerned for his client, the proposer, whom he will advise as to the best market for the kind of insurance required. An ordinary insurance agent represents, within his limited powers, an insurance company, but in a particular transaction he may step outside the scope of his authority and become the proposer's agent for some purposes. Both brokers and agents look to the insurance companies for payment of a commission as remuneration for their services.

In some branches of insurance, e.g. Accident and Life, the proposer is required to answer questions on a proposal form, but in all classes he must disclose all material facts which will enable a prudent underwriter to decide whether the risk is acceptable and, if so, at what premium. In Marine insurance the broker furnishes the underwriter with the necessary details in a brief memorandum known as a Slip.

Acceptance may be indicated in various ways. In Marine insurance the underwriter initials the slip opposite the amount he is prepared to insure. When this is done, the broker will send a note of the completion of the contract to his client. Cover notes are sometimes issued in the Fire and Accident branches, and acceptance letters are dispatched for Life assurance.

Insurance companies themselves prepare and sign the contract, which is known as a policy. When the insurance is placed at Lloyd's, however, the policy is prepared by one of Lloyd's brokers and executed at Lloyd's Signing Bureau. Before passing a policy to his client, a broker will satisfy himself that it is correctly drawn up. At this stage, also, he will collect the premium.

Many policies, though issued primarily for twelve months, provide for

renewal, subject to the payment by the policy holder, and the acceptance by the insurance company, of the appropriate premium. Renewal notices are not compulsory, but it is customary for policy holders to be reminded when their policies fall due for renewal. From fifteen to thirty days of grace after the renewal date are usually allowed during which the policy holder may pay the premium. He loses the benefit of the days of grace where, by his conduct, he shows a clear intention not to renew, or where the insurance company has declined to continue the policy.

In the following pages the main classes of insurance are described : they are dealt with under four headings, Life, Fire, Accident and Marine.

LESSON ONE

LIFE ASSURANCE

THERE is nothing more certain than that we shall all die, but there are few things more uncertain than when that fate will befall us. The possibility of death occurring before the normal span of life has been enjoyed is a risk against which assurance is required. The usual purpose of life assurance is to protect the dependants of the life assured in the event of his death or, should he live to an old age, to make financial provision for his retirement. Owing to the different forms of life assurance, however, it can serve many purposes : this can well be imagined when it is borne in mind that policies may be effected on any of the following bases :

Kinds of Policies

Whole of Life. In return for a payment, known as a premium, the assurance company agrees to pay a certain sum at death whenever that may occur. The premiums may be payable annually, half-yearly or at more frequent intervals throughout life, or for a limited period.

Term Assurances. In consideration of the payment of a single premium or periodical premiums, the company undertakes to pay the sum assured if the life assured dies within a specified period. There is no return of premium if the life assured survives the period.

Decreasing Term Assurances. These are term assurances with sums assured which decrease as time goes by. It is usual to charge a single premium or a periodical premium for half the term.

Endowment Assurances. Under this type of assurance, which is very popular, the sum assured is payable at the expiration of a fixed period, or at death, should that occur previously. Periodical premiums are payable until the claim arises.

Convertible Term Assurances. These are term assurances giving the policy holder or assured the right at a future date to take out either a whole of life or an endowment assurance without a further medical examination.

Pure Endowment. The assurance company undertakes to pay a sum of money if the life survives to a specified date. Under some pure endowments, the premiums are returnable in the event of death before the specified date ; these are little more expensive than " non-returnable " policies.

Children's Deferred Assurances. Premiums are payable from the time the

policy is taken out for whole life assurance which, however, does not become effective until the child attains the age of, say, twenty-one.

Double Endowment Assurances. A certain sum is paid by the company at the death of the life assured during the currency of the policy or double that sum if the life assured survives the period of the assurance.

Contingent. The simplest example involving two lives is where the sum is payable at A's death only if B is alive at that time.

Policies have been designed to adapt these types of cover to particular needs. For example, a Family Income policy secures the payment of benefits in the form and at the time that they are needed. If the husband dies within a specified term, commonly twenty years, a capital sum is paid at the end of that term, and meanwhile a monthly or quarterly instalment of capital is available for the family. If, however, the husband dies after the specified term, the capital sum only becomes payable.

Annuities. Reference must also be made to annuities, arranged with life assurance companies or through the Post-Office. In return for a certain purchase price the company or the Post-Office undertakes to make periodical payments (representing a portion of the purchase money together with interest) until the life dies. If an annuity is to be paid for a specified term of years irrespective of any contingency such as death, it is known as an annuity-certain.

Commercial Uses of Life Assurance. Some of the commercial uses to which life assurance is put are :

1. To replace money which may have to be withdrawn from business on the death or retirement of a partner. A joint life endowment assurance would be appropriate.

2. As security for advances within the surrender value of a life policy. A policy is security when it is deposited with a lender, e.g. a bank, to ensure that a loan will be repaid.

3. To protect the creditor's interest in the life of a debtor.

4. To insure important employees for short terms, e.g. during business visits abroad.

5. By group life assurance, to assure the lives of one's employees. Use may be made of life, endowment or term assurances.

6. By Sinking Fund policies to provide for the payment of a fixed sum on a specified date so that debentures can be redeemed, or in order that money may be available for the repairing of assets which depreciate.

Proprietary and Mutual Companies. Life policies can be obtained either from proprietary or mutual companies. Proprietary are those which are owned by shareholders who receive dividends on the capital invested. Mutual are those owned and controlled by the policy holders. It must not be thought, however, that in the case of proprietary companies, the policy holders do not have any opportunity of sharing in the profits. Both in a mutual and proprietary company, a person may select a policy with or without profits. He pays a higher premium if he chooses the former, but he thereby becomes entitled to his share of the profits set apart for policy holders ; this share is known as a bonus.

If the bonus is payable at the same time as the sum assured, it is known as a reversionary bonus ; if payable when declared, it is called a cash bonus. A

bonus may, in some cases, be applied in reduction of future premiums or may be deferred. A life assurance office is obliged to make an actuarial valuation of its business at least once every five years. This means that the liability under all policies is ascertained to see that it is covered by life assets. If a surplus of assets results, in normal circumstances a substantial proportion is distributed.

Ordinary and Industrial Assurance. Life assurance is of two classes, ordinary and industrial. Industrial assurance is effective for small sums, the premiums in respect of which are paid to collectors at intervals of less than two months. Certain offices specialize in this class of business, and others do not transact it at all. Ordinary life assurance is usually for larger amounts and the premiums are, in the main, payable annually. It reaches the company through agents, or brokers, or direct. There is not much direct business except in the case of a few mutual societies.

For ordinary assurance, prospectuses are issued, setting forth details of the different types of policies and inclosing proposal forms. It is by completing a proposal form that the proposer supplies the assurance company with much important information, but usually this has to be supplemented by a medical examination by the company's doctor. All material facts must be disclosed, otherwise the company may avoid the policy issued in ignorance of those facts.

Insurable Interest. By reason of the Life Assurance Act, 1774, the proposer must have an insurable interest in the life assured at the time when the policy is arranged. The Act was passed to prevent the practice of insuring the lives of prominent persons purely as a gamble. A proposer can insure his life to any amount; a husband can insure his wife, and a wife can insure her husband. A parent has no insurable interest in the life of a child except where financial loss would be sustained on the child's death. The Industrial Assurance Act, 1923, however, permits small assurances for funeral expenses on the death of parent, child, and certain other relatives, and the Industrial Assurance and Friendly Societies Act, 1929, makes a similar kind of provision in respect of endowments.

In other cases, the interest must be a pecuniary one, e.g. a creditor in the life of his debtor, and a surety in the life of his principal. This rule does not prevent the subsequent assignment of a policy to a person with no insurable interest, provided the assurance was not intended for such person from the beginning.

Acceptance Letter. The acceptance of the proposal is usually intimated by an acceptance letter which states that the risk shall not commence until the premium has been paid and that, if it is not paid within a certain time, further evidence of health may be required.

Policy. The policy, which is the written contract, states that, provided payment be duly made to the company of the premium or premiums specified in the schedule, the company will pay the sum assured to the person to whom it is payable, together with (if the policy is "with profits") such additions as may be determined by the directors, upon good and sufficient proof of the happening of the event on which the sum assured is to become payable and of the correctness of the date of birth of the life assured; provided always that if the age of the life assured was understated in the proposal, the sum assured shall be such reduced amount as the premium would have provided

for the correct age, and the additions shall be reduced proportionately.

The facts peculiar to a particular policy are printed in a schedule which contains the name and address of the assured and the line assured, the sum assured, etc. In order to comply with the Policies of Assurance Act, 1867, the principal place of business of the company must be stated. This is the address to which notices of assignment must be given. As the date on which notice is received by the company regulates the priority of claims by assignees, notice should be given without delay.

The conditions and privileges form an important part of the policy. Provision is usually made in case of non-payment of premium for the surrender value to be applied towards keeping the policy in force. The surrender value is the amount which the company is prepared to repay to the assured if he should decide to terminate the assurance. Since it increases from time to time, on account of the payment of premiums, some companies endorse on their policies the values which will apply after specified periods. Usually a policy with a surrender value can be exchanged for a paid-up policy with a smaller sum assured.

When premiums are payable annually, it is usual to allow thirty days of grace for the payment of each premium subsequent to the first.

Claims. Every claimant is required to establish his title to the satisfaction of the directors of the company. Assignees may claim in their own names. If the life assured dies by his own hand within a specified period of, say, one year from the issue of the policy, the assurance is stated to be void except to the extent that a person other than the assured's representative is interested for value given. Apart from this provision, however, it is contrary to public policy that an assured should, by taking his life, attempt to bring financial benefit to his estate.

Stamp Duty. Each life policy must bear an *ad valorem* stamp duty. The value of the stamp varies from 1d. for policies under £10 to 10s. for policies of £1,000. Above this amount the rate is 10s. for every £1,000.

A rebate from income tax may be claimed in respect of the premium on an assurance made by a man on his own life or the life of his wife.

EXERCISES FOR PRACTICE

These exercises are based on the information given in the above lesson.

1. Define the following terms : Endowment Assurance ; Whole Life Policy ; Term Assurance.
2. What exactly is meant by Insurable Interest ? Does a person to whom a policy is assigned require to have insurable interest in the life assured ?

LESSON TWO

FIRE INSURANCE

INDEMNITY. Fire insurance is a contract of indemnity. Its purpose, assuming the sum insured is adequate, is to place the policy holder in the event of a fire in the same pecuniary position which he enjoyed before that misfortune arose.

If property which is under-insured is totally destroyed by fire, no more can

be recovered than the sum insured. Where the amount of the damage or destruction is less than the sum insured the full amount of the loss can be recovered unless the policy bears an average clause which makes the company liable only for such proportion of the loss as the sum insured bears to the value of the whole property.

Occasionally an insurer is prepared to agree the value of the goods when the policy is effected. So long as the value is fixed in such a manner as to indicate that the policy holder has acted in good faith, the value is binding between the policy holder and the insurance company, should the goods be totally destroyed.

Insurable Interest. It is obvious that if the principle of indemnity is to be observed, each policy holder must have such a pecuniary interest in the subject matter of the insurance as to benefit from its safety and be prejudiced by its loss. Owners, mortgagees, trustees, bailees, and limited owners are examples of persons having an insurable interest. The law requires the interest to subsist at the time of a claim.

Good Faith. The insured and the insurer must, during the negotiations leading up to the contract, observe the utmost good faith. The insured must not conceal or misrepresent a material fact which he privately knows, or the policy may be avoided. The information required by the insurer is sometimes supplied by the proposer on a form which contains a number of questions. Generally, however, all but the simplest risks must be surveyed by an official of the company.

Rating. With the surveyor's report before him, the insurer decides whether the risk is acceptable and, if so, fixes the rate to produce the appropriate premium. Many of the larger insurance companies have pooled their experience of fire business and, from the statistics so obtained, have drawn up tariffs giving basic rates for specific types of risk and making appropriate adjustments for features which have been found to affect the hazard. Tariff offices must observe these rates and conditions, and non-tariff companies not infrequently support the rates, since they are the result of statistics.

From the premium paid by the insured a commission is allowed to the agent of the company who introduced the business. Often the intermediary is a broker, acting for the insured, but he too is paid commission by the company.

Nature and Conditions of the Policy

Policy. The tariff offices make use of a standard fire policy form. According to this document, the insurance company undertakes, after the premium has been paid, to pay or make good to the policy holder any loss or damage to the insured property caused by fire (whether resulting from explosion or otherwise), lightning, or the explosion of domestic boilers or of gas used for domestic purposes, occurring within the period of the insurance, which is usually for one year, but which can be renewed provided the appropriate premium is tendered and accepted.

Fire means actual ignition. It is not covered if occasioned by the spontaneous fermentation or heating of the insured property or by its undergoing any process involving the application of heat. Earthquake, subterranean fire, riot, civil commotion and war risks, whether they cause loss or damage by fire or explosion, are also excluded from the risks covered by the policy.

Conditions. The contract is subject to a number of conditions, the substance of which may be summarized as follows :

1. It is specifically stated that the policy shall be avoidable in the event of misrepresentation or non-disclosure in any material particular on the part of the person insured.

2. So too shall it be avoided with respect to any item regarding which there is any alteration after the commencement of the insurance by removal, or by which the risk is increased, or whereby the insured's interest ceases except where the insured dies or becomes bankrupt. If, however, the company is informed of any alteration, and admits the change by memorandum, the policy is not avoided.

3. Excluded by this condition are : (a) destruction or damage by explosion except as already stated ; (b) goods held in trust or on commission, money, securities, stamps, documents, manuscripts, business books, patterns, models, moulds, plans, designs, explosives, except when specially mentioned ; (c) destruction of, or damage to, property which, at the time, was insured by, or would but for this fire policy be insured by, any marine policy, except in respect of any excess beyond the amount which would have been payable under the marine policy had the fire policy not been effected.

4. The insured is required to give immediate notice of any destruction or damage and within thirty days to deliver a detailed claim. If requested, he must also furnish such proofs as may be reasonable.

5. Wilful destruction or damage, or fraud, cause the insured to forfeit all benefit under the policy.

6. If the company exercises its option to reinstate or replace property instead of paying the loss, this condition provides that the insured shall produce all plans and information as the company may reasonably require. The reinstatement need not be exact or complete but only as circumstances permit.

7. The company acquires authority to take possession of any property insured, for all reasonable purposes, and to deal with it in any reasonable manner, once a claim has been made. This enables the company to undertake salvaging operations. But the insured is not entitled to abandon any property to the company.

8. This contribution condition provides that if there is any other insurance on behalf of the same insured applying to the property damaged or destroyed, the liability of the company under this policy shall be limited to its rateable proportion. If the other insurance is subject to a Condition of Average, so also shall be this policy. Where the other policy stipulates that it shall not contribute with any other insurance, the liability of the company under this policy is limited to such proportion of the destruction or damage as the sum insured bears to the value of the property.

9. This is the subrogation condition, providing for the company, with the help of the insured, to exercise any rights and remedies which would have rested with the insured. For example, the company may take action against a person who negligently caused the fire damage in respect of which it must pay under the policy.

10. Every warranty, i.e. every condition which must be exactly complied with, is said to apply and continue to be in force during the whole currency of

the policy. This is to prevent a warranty from being construed as applying only when made at the commencement of the contract. But it is provided that a claim in respect of destruction or damage occurring during any renewal period shall not be barred by reason of a warranty not having been complied with at any time before the commencement of such period.

11. The last condition stipulates that all differences arising out of the policy shall be referred to the decision of an arbitrator to be appointed by the parties or, if they cannot agree upon a single arbitrator, to the decision of two arbitrators, one to be appointed by each of the parties. If the arbitrators do not agree, the dispute is to be decided by an umpire appointed by the arbitrators.

Finally there is a memorandum on the policy to meet the case where, at the time of the destruction or damage to the insured building, the policy holder has contracted to sell his interest, but the purchase is not completed until afterwards. On the completion the purchaser, if and so far as the property is not otherwise insured, shall be entitled to the benefit of the policy in respect of that destruction or damage.

Fluctuating Stocks. Where stocks fluctuate, it is possible to arrange a floating policy either on a declaration or adjustable basis. Declaration policies are effected for a sum estimated to cover the maximum amount which may be at risk at any one time, and 75 per cent of the estimated premium based on the maximum sum insured is initially paid. The actual premium is determined at the end of the period of insurance from periodical (usually monthly) declarations as to the value of the stock. Adjustable policies differ from the foregoing in that the policy holder informs the company on each occasion that the value of the stock appreciably alters (i.e. before, instead of after the risk has been run) and the premium is immediately adjusted by an additional or return premium.

Special Perils. For appropriate additional premiums, fire policies may be extended to cover special perils such as damage caused by aircraft (other than by fire), damage due to storm, tempest and flood, impact, and the bursting of water pipes and apparatus. Indeed, the normal householders' comprehensive policy includes many of these as a matter of course, along with several accident risks as, for example, burglary, workmen's compensation, and third party liability.

Subject to certain conditions many of the excluded risks can also be covered.

Loss of Profits. In addition to the loss of capital sustained when a fire occurs, a business man incurs loss by reason of the interruption of his business. An insurance may be arranged to cover his loss of net profits, his standing charges and the increased cost of carrying on his activities on account of the fire.

Stamp Duty. A fire policy must bear a sixpenny stamp.

EXERCISES FOR PRACTICE

These exercises are based on the information given in the above lesson.

1. Name any risks, apart from fire, which are covered by a policy of fire insurance.
2. Upon what conditions is a policy of fire insurance based ?

LESSON THREE

ACCIDENT INSURANCE

ACCIDENT insurance is a term used to apply to many classes of insurance which do not seem to be closely related. Originally it was applied only to insurance against personal accidents, a form of business which was first transacted during the early days of railway travel. Companies were established with the object of issuing personal accident insurance, but when the Industrial Revolution created a need for new forms of insurance protection, these fresh classes were also taken up by the accident companies, with the result that most modern classes are regarded as accident business. Nearly all the accident companies have been amalgamated with fire companies and in this way strong composite companies have been formed with accident departments, whose premiums amount to many millions of pounds. Some of the classes—workmen's compensation, for instance—are also transacted by Mutual Associations. Lloyd's, too, have cultivated the various classes of accident business.

Procedure. Most insurances are arranged through agents or brokers who receive a commission for their services. In order to submit all necessary information to a company's underwriting department, an agent obtains completion of a proposal, on which the proposer must, in reply to questions, disclose all material facts. In all cases, the proposer must have an insurable interest in the subject matter. The company decides whether the risk is acceptable and if so, at what rate. Tariff companies pool their experience in the principal accident classes and charge premium rates scientifically determined.

Usually accident insurances are written on a yearly basis, the policies being renewable annually provided both parties agree. All policies require to be stamped with a 6d. stamp, or 1s. in the case of most comprehensive insurances.

The main classes of accident insurance may now be considered.

Personal Accident Insurance. The simplest policy provides for the payment of a capital sum, say £1,000, should the insured meet with his death from accidental, violent, external and visible means. For a higher premium, benefits in the form of capital sums may be secured in the event of permanent total or partial disablement. Temporary total or partial disablement is usually compensated by a weekly payment during a limited period. A development from the "Accidents only" policy is the "Accidents and Specified Diseases" insurance. This provides for all the benefits already mentioned and for periodical payments when the policy holder is disabled by one of a fairly comprehensive list of specified illnesses. More popular, but more expensive, is the "Accidents and All Illnesses" policy, the name of which is sufficiently explanatory.

In contrast to these policies with a yearly basis, "Permanent Sickness" insurance may be effected with a few companies on the understanding that the policy will be continued to a certain age, irrespective of any deterioration which may occur in the insured's health. The premiums are, of course, comparatively high.

Rating of risks depends upon the kind of cover required, the policy holder's

occupation and any feature which might increase the hazard. Discounts are generally allowed to total abstainers and to insured who hold life policies with the company.

The majority of personal accident policies are effected by proposers on their own lives, but some employers arrange for accident cover on the lives of their principal salaried employees.

Personal accident insurance is not a contract of indemnity and an insured who has received benefits under his policy in respect of a motor accident is not precluded from claiming damages from the responsible motorist.

Workmen's Compensation Insurance. When a workman sustains accidental injury arising out of, and in the course of, his employment, his employer is liable to compensate him or his dependants. If the injury is due to the employer's own negligence, he is liable at Common Law to pay damages, which take into account all pecuniary loss as well as pain, suffering and loss of expectation of life. If the injury is due to the negligence of a fellow workman, the injured person may have a claim under the Employer's Liability Act, 1880, but the amount obtainable is limited to three years' earnings. In all other cases, the claim would be made against the employer under the Workmen's Compensation Acts, which lay down a complicated scale for arriving at the compensation, loss of earnings and dependency being the principal factors. Not only injuries, but also certain industrial diseases due to the nature of a workman's employment are dealt with under the Acts.

The policy, when drawn up to meet the requirements of a particular case, provides a complete indemnity against the employer's liability to his workmen at Common Law, and under the Employer's Liability Act and Workmen's Compensation Acts. Moreover, the employer has the satisfaction of knowing that the claims will be handled by experienced officials of the company, or, if necessary, by their solicitors at their expense.

Premiums are based on the hazards of the trade and the annual wages paid to the workmen. The initial premium is paid on an estimate; any necessary adjustment is made at the annual renewal when a declaration of the actual wages is required.

When the National Insurance (Industrial Injuries) Bill becomes law, employers will cease to be liable under the Workmen's Compensation Acts but will contribute, along with employees and the Exchequer, to a state-administered fund from which injured workmen will be compensated. Employees will probably retain the right to claim against their employers, in appropriate cases, either at Common Law or under the Employer's Liability Act, and in this respect insurance to cover the employer's liability, as modified, will still be necessary.

Third Party Risks

Third Party or Public Liability Insurance. Every person runs the risk of being sued for damages should he or his servants negligently cause injury to the person, or damage to the property, of members of the public, who are usually termed "third parties". Such liability to third parties (excluding members of one's own family or persons in one's service) can be covered by means of various types of policies which almost invariably specify a maximum limit payable by the company in respect of any one accident, though this is exclusive

of law costs, which are also payable. When an insurance has been arranged the third party can recover any damages awarded to him against the insured, even though the latter becomes bankrupt or goes into liquidation. Since the passing of the Third Parties (Rights against Insurers) Act, 1930, the damages recoverable under the policy do not form part of the general estate of the bankrupt to be used for the benefit of all creditors, but instead they go entirely to the third party.

Practically all business men effect a General Public Liability policy which, naturally enough, excludes the more specialized risks forming the subject of other types of policy. Other common exceptions are liability for damage to property in the custody or control of the insured or on which he is, or has been, operating, liability for damage caused by fire, liability for goods sold or supplied, and liability under contract. Some of these may be included in the policy for an additional premium. The basic premium is usually fixed in relation to the estimated annual wages paid to the workmen, and the initial payment is adjustable at the end of the period when the actual wages paid can be ascertained.

The more important specialized types of third party insurance are motor, horse driving, aircraft, engineering, and property owners' liability.

Motor. Third party insurance in the case of the motorist is now compulsory by reason of the Road Traffic Acts. The insurance required by this legislation relates to the liability of the owner or authorized driver for personal injuries caused to third parties, and such insurance is not effective until a certificate of insurance has been delivered by the company to the insured. Liability for damage to property need not be covered, but most motorists appreciate the need for full indemnity. The third party insurance may form only a section of a comprehensive policy covering other risks, such as accidental loss of, or damage to, the vehicle itself, and injury to the policy holder.

Rates depend upon the type of vehicle, the district, use and, in some cases, horse-power and value, and any special features. Sometimes policies are arranged subject to an "excess" of say £5; this means that the insured will bear the first £5 of each claim. When an insurance runs for the whole period free from any claim, a "no claims" bonus is allowed. The rate of bonus is not constant, but cumulative.

Driving. Third party insurance is not compulsory for horse owners, but most of them hold such cover, to which may be added an indemnity in respect of loss of or damage to the vehicle and fatal injury to the horse. The amount payable under the latter section is usually limited to two-thirds the value of the horse. Like motor insurance, the driving policy may be subject to an excess, but it is not the practice to allow a "no claims" bonus. Premiums take into account trade, district, and numbers of drivers, vehicles and horses.

Aircraft. There is a growing market for this class of business which so far has tended to gravitate to specialist companies and underwriters. A comprehensive aircraft policy bears many resemblances to a motor policy, except that the risk of personal accident is not included. This is the subject of a separate insurance. Provision is made in the Air Navigation Act, 1936, for third party insurance to be compulsory, but that part of the Act does not come into force until a date to be announced. The liability of an aircraft owner for damage to persons or property on land is, generally speaking, absolute.

Engineering. The protection afforded by third party insurance on boilers, steam, gas or oil engines, electrical machinery and lifts, hoists and cranes is only a part of the service rendered by engineering insurance companies. The offices specializing in this class of business arrange inspections which not only detect any defects before they become serious, but also enable the owner to comply with the Government requirements relating to periodical inspection by competent engineers. The companies also cover the boilers against explosion, and the engines, machinery and lifting appliances against breakdown.

Property Owners' Liability. This form of third party insurance protects the insured in the capacity of property owner against his liability for accidents happening through defects in, on, or about the premises. Where the owner is also occupier it is usual for the property owner's cover to be included in the third party general policy.

Burglary. For theft to amount to burglary or housebreaking, there must be forcible entry of, or departure from, the building. Housebreaking may occur at any time, but burglary can only occur at night. Whereas the contents of private dwelling houses may be insured against burglary, housebreaking and larceny, the contents of business premises can be insured against burglary and housebreaking only. This means that theft from business premises without forcible entry is not a subject for insurance; the reason for which can readily be appreciated when it is remembered that shortages nearly always come to light at stock-taking and they would probably be attributed to theft by customers or employees who had normal access to the premises.

When a proposal is made for a business premises risk, it is usual for a survey to be arranged, and if the risk is acceptable, a premium is quoted taking into account the kind of stock, and any special physical hazards.

In cases where there may be under-insurance, the policy is made "subject to average," which means that the insured must be considered his own insurer for the deficiency and accordingly must bear his proportion of any loss.

Damage to the premises, for which the insured must bear the cost of repairs, is included in the burglary cover. Cash and notes in locked safes may be insured provided the safes are substantially constructed and securely fastened.

Insurance of Money. Cover may be obtained by means of a separate policy in respect of (a) loss of money and stamps by fire, accident or theft whilst in transit, including theft by the insured's own employees if accompanied by the simultaneous flight of such employee; (b) loss of money contained in a locked safe by burglary or housebreaking, including damage to safe; (c) "hold up" (i.e. loss arising from theft accompanied by violence by anyone, other than employees of the insured, committed on the insured's premises while occupied for business purposes).

The premium is adjusted at the end of the year of insurance in accordance with the actual amount at risk.

Goods in Transit. Goods in transit by land within Great Britain, Northern Ireland and Eire may be insured against (a) loss or damage by fire, collision, or overturning of the vehicle; or (b) loss or damage by fire, collision, or overturning of the vehicle and theft; or (c) loss or damage by fire, accident or theft.

The policies are usually "subject to average" (see Burglary above) and whenever the cover includes accidental damage, the insured is required to bear

the first £2 10s. od. or £5 os. od. of each claim. For an isolated conveyance, a single journey policy can be effected. Declaration policies are issued when proposers intend to send numerous consignments of goods by different vehicles. The sum insured is then reduced by each consignment declared. Annual policies are appropriate in connexion with goods carried on specified vehicles as, for example, the lorries of a haulage contractor. All goods carried during the year are covered without the need for declarations.

All Risks. Valuable goods such as gold and silver articles are sometimes insured against all risks, but the rate of premium must, of course, be very substantial for so wide a cover.

Fidelity Guarantee. It is often the trusted servant who embezzles his employer's money and the prudent employer will protect himself against loss by his servants' defalcations by means of a fidelity guarantee policy. Cover may be arranged on individuals or on all the employees collectively. The premium depends upon the duties of the employees and the sum insured. In the same class as fidelity guarantees are the various bonds which insurance companies will execute on behalf of their clients in favour of Government departments and the courts. Trustees in bankruptcy, liquidators, bonded warehousemen and administrators are examples of persons who avail themselves of this service.

Miscellaneous. Other classes which are dealt with in the accident department are plate-glass and livestock insurance.

EXERCISES FOR PRACTICE

These exercises are based on the information given in the above lesson.

1. Explain (a) "subject to average"; (b) "excess"; (c) "third party"; (d) "no claims bonus."
2. Why is larceny covered by a private dwelling house policy but excluded from an insurance on business premises?
3. What is the practical significance of the fact that a personal accident policy is not a contract of indemnity?

LESSON FOUR

MARINE INSURANCE

A CONTRACT of marine insurance is a contract whereby the insurer undertakes to indemnify the assured, in manner and to the extent thereby agreed, against marine losses, that is to say, losses incident to marine adventure". This definition is contained in the Marine Insurance Act, 1906, which codifies the law on the subject.

Insurable Interest. Such a contract, if it is to be legally binding, can only be entered into by a person who has an insurable interest or *bona fide* expectation of acquiring one. The right to insure where there is no present interest but only a genuine expectation is laid down in the Act, and its justification is to be found in the exigencies of overseas trade.

It is an offence to effect a marine insurance without having an interest or *bona fide* expectation of acquiring one.

The assured must be interested in the subject matter at the time of the loss.

This rule is subject to the exception that where a merchant, who is uncertain whether his goods are in safety, insures them "lost or not lost", he may recover any loss although his interest may not have been acquired until subsequently. If, however, when he arranges the insurance, he and not the insurer is aware of a loss, the policy may be avoided. Ownership is the best example of an insurable interest. Other persons entitled to insure include mortgagees of vessels or cargo, cargo-owners in respect of freight paid in advance and the premium and stamp duty on the marine policy, and seamen in respect of their wages.

Indemnity. It has already been stated that under a contract of marine insurance the assured will be indemnified "in manner and to the extent thereby agreed". In practice there are certain variations from the strict application of the principle of indemnity; in the customary form of policy agreed values are stated and these values are binding in the event of fraud. Such insurances are called valued policies.

Good Faith. Like other classes of insurance, the contract must be entered into with the utmost good faith. There must be a full disclosure of all material information which would affect the judgment of a prudent underwriter, and every material fact so disclosed must be true.

Marine Companies and Lloyd's. Marine insurance is transacted by companies and by private underwriters. Companies receive the business through their own agents, from brokers or direct from the public. Frequently they are interested in the same risks as Lloyd's underwriters, for the larger risks are spread over a wide market. Lloyd's is an association of private individuals each of whom risks his own personal capital when he underwrites a policy. Although the liability of each is individual, the general practice is for several members to form a syndicate so that they can employ one Underwriting Agent to act for them all. Brokers are always employed when the insurance is placed at Lloyd's and they are directly responsible to the insurer for the payment of premiums.

Procedure. When a broker is asked to place a risk, he prepares an original slip, setting out the main details, and takes it to an underwriter at Lloyd's or to a marine insurance company. If the insurer considers the risk acceptable, he quotes a rate per cent which, when approved, is inserted on the slip. The underwriter then writes on the slip the amount he is willing to insure, initials and dates it. Any balance will be insured by other underwriters who are prepared to follow the lead. When the broker has placed the risk, he issues a cover note to his client informing him that the risk has been placed. If the business is placed direct with a company the company sometimes issues a cover note but since it does not bear a Revenue stamp it is not admissible as evidence except in conjunction with the stamped policy.

Sometimes supplementary information regarding the risk is embodied by the broker in a closing slip. This, together with copies of clauses which are to be included in the policy, is handed to the company so that the policy can be prepared. Policies for risks placed at Lloyd's are made out by the broker himself and presented at Lloyd's Signing Bureau for execution on behalf of all interested underwriters.

Policies. A form of policy, known as the S.G. form, is included in the First Schedule of the Marine Insurance Act, 1906, but there is no obligation to use

this wording and, indeed, most companies have introduced separate forms for various classes of marine insurance. Printed policies are adapted to particular uses by superimposed wordings or attached clauses.

Some of the terms used to describe marine policies may now be mentioned.

Voyage Policy. The insurance applies for a specified voyage and is appropriate for cargo.

Time Policy. The cover is for a specified period, not exceeding twelve months, and is suitable for a hull, i.e. vessel.

Mixed Policy. The risk is insured both for a specified voyage and for a period of time.

Declaration, Open and Floating Policies. These are issued to shippers for a round amount which is gradually exhausted by the values of each shipment declared. Certificates of insurance are issued to the shippers in book form and when a shipment is made, a certificate is often included with the shipping documents. Unless stamped, however, it has not the legal status of a policy.

Builders' Risks Policy. The cover is in respect of the risk of damage to vessels during construction.

Port Risk Policy. The insurance applies for a certain period whilst a vessel is in port.

In addition, open covers are frequently arranged under which the assured agrees to notify all shipments and the underwriters agree to issue policies. This type of cover is not binding in law until the issue of the policies.

Insured Perils. A marine policy, which must bear an *ad valorem* stamp, insures against losses caused by perils of the seas, fire, rovers, thieves—in the sense of robbers acting with violence—jettison of goods which have to be thrown overboard in order to save the adventure, barratry, i.e. every wrongful act wilfully committed by the master or crew to the prejudice of the owner or charterer.

Certain other perils are mentioned specifically in the policy, but these are usually excluded by the F.C. & S. (free of capture and seizure) clause which excepts capture, seizure, arrest, restraint or detainment and the consequences of hostilities, warlike operations, civil war, revolution, insurrection or civil strife arising therefrom, or piracy.

War risks are insurable, however, at an appropriate premium.

Nearly all claims fall under one of three main headings :

Particular Average. This is partial loss or damage to a particular interest, e.g. hull, cargo or freight, caused by some of the perils insured against, and not intentionally incurred to avert danger to the entire adventure. Small losses can be very troublesome and since 1749 it has been the custom to include in the policy a Memorandum reading as follows :

N.B. Corn, fish, salt, fruit, flour, and seed are warranted free from average unless general or the ship be stranded—Sugar, tobacco, hemp, flax, hides and skins are warranted free from average, under five pounds per cent, and all other goods, also the ship and freight, are warranted free from average, under three pounds per cent unless general, or the ship be stranded.

In the policies of marine companies the words " sunk or burnt " appear each time after the word " stranded ".

The effect of the Memorandum is to free the insurer from liability for partial

loss (which is not a general average as defined below) unless the amount exceeds the appropriate percentage. Once this percentage is exceeded, the insurer is liable for the full amount, and not only for the surplus.

The requirements of traders have made it necessary to introduce a number of clauses which have the effect of modifying the operation of the Memorandum. There is the F.P.A. or "free from particular average" clause, and many shorter ones such as "to pay average on each package separately".

General Average. Whether insured or not, all interests represented in a marine adventure are liable to contribute to any extraordinary sacrifice or expenditure voluntarily and reasonably incurred in the time of peril for the purpose of preserving the property as a whole. This would happen where heavy cargo was thrown overboard to lighten an imperilled vessel in a gale. The owner of the cargo, if insured, could then recover from his insurer the whole loss and the latter would be entitled to recover in general average from the other parties represented in the adventure. The general average statement would be drawn up by an average adjuster appointed by the shipowner.

Total Loss. A total loss may be *actual*, as where the subject matter is wholly destroyed, or is so damaged as to cease to be a thing of the kind insured, or where the assured is irretrievably deprived of its possession. There is, however, another kind of loss which occurs when the subject matter is reasonably abandoned on account of its actual total loss appearing unavoidable, or because it could not be preserved from actual total loss without an expenditure which would exceed its value when incurred: this is known as a *constructive* total loss.

As there may be some difference of opinion with regard to a claim for a constructive total loss, it is essential that the assured shall give notice of abandonment as soon as possible. Notwithstanding the fact that the insurer may, and usually does, refuse the notice until the matter has been investigated, he may take steps to preserve the property without prejudicing his position. Similarly the assured who has given the notice is not deemed to have waived abandonment by taking steps to save the subject matter. In the policy is a "Sue and Labour" clause which gives permission to the assured or his employees to take all necessary steps to preserve the subject matter when in danger and, further, the insurer agrees to pay his share of any expenses which may be reasonably incurred in so averting or minimizing a loss covered by the policy.

Assignment. A marine policy is assignable unless it contains terms expressly prohibiting assignment. Policies on goods are freely assignable to meet the needs of trade and the method is by blank endorsement. In the case of hulls, the identity and standing of the owner are important and the assured cannot assign his policy without obtaining the insurer's permission.

EXERCISES FOR PRACTICE

These exercises are based on the information given in the above lesson.

1. Distinguish between: (a) general average and particular average; (b) voyage policy and time policy; (c) actual total loss and constructive total loss.
2. **MAIN** Insurance is defined in Section 1 of the Marine Insurance Act, 1906. Explain the definition in a simple manner.

SECTION XIII

ADVERTISING AND PUBLICITY

LESSON ONE

FORMS OF ADVERTISING AND GENERAL PRINCIPLES

ADVERTISING has been well defined as "the science of making known." In some forms, it has, of course, existed for centuries, and it is wrong to regard it as a new force. In early civilizations, publicity was given to events and facts of importance to communities, but advertising, as we know it, only appeared when the art of printing became general. From then onwards, it has been increasingly a potent influence in commerce, and because of the many forms in which advertising messages can be conveyed to the public, it has grown into one of the most tremendous factors in modern life.

The arrival of advertising as a primary factor in commerce had a great effect on typography, illustrative methods and the technique of many ancillary trades.

The purposes of advertising are manifold, but broadly its function is to persuade people to buy the advertised product or avail themselves of the advertised service. It is difficult to think of any type of business which does not use advertising in some form or another. Obviously, the builder of bridges or battleships will not need to advertise to the general public like the manufacturers of a breakfast food, cigarettes or stockings, but while such a manufacturer may have no potential customer among the general public, he may still find it wise to maintain the prestige of his name by a certain amount of advertising of the right kind.

The main forms of advertising are: Press, Posters, Window display, Exhibitions, Films, Radio, Direct mail.

Looking at the subject broadly, the Press is the main method employed by the majority of manufacturers. The reason is not hard to find—an advertisement in a national newspaper conveys a message quickly to many thousands of readers simultaneously. With the vast increase in circulation of newspapers, the advertiser, by using only a few national organs, can reach practically every household in the country. Press advertising is a flexible weapon—"copy" can be altered quickly, new messages can be put over without any delay, and the method provides unique opportunities for appealing to the eye by effective illustrations. The field of Press advertising covers morning, evening and weekly newspapers, and all types of technical and trade journals, magazines, and periodicals. The use of any particular medium is, of course, dependent on various factors: (a) The type and selling price of the article advertised. (b) The type or readership of the medium used. (c) The area of circulation.

It would obviously be wasteful to advertise a highly priced fur coat in a paper appealing to a low wage earning section of the community. In judging the class of readership of any medium in relation to the type of product advertised, it is necessary for the advertiser to decide whether, for instance, a serious-minded reader of a religious paper will buy his product if it is not of

the type likely to make an appeal. Area circulation is important because Press advertising must, of course, be linked up with sales distribution, and the manufacturer whose products are not nationally distributed, but only in certain areas, will naturally regard provincial and local newspapers as more important than the nationals.

Advertising is used in differing ways according to the manufacturer's selling problem. In the main, commercial firms are not anxious merely to "snatch orders," but to build up repeat business, goodwill and prestige. It will be apparent that each advertisement in the national Press cannot be "keyed" and the manufacturer really casts his bread upon the waters in the hope that, by constant repetition of his name and the facts in connexion with his product, he will secure the permanent custom of the community.

Variety of Media

Poster advertising is most frequently used as an adjunct to Press advertising although there are cases where manufacturers have relied on posters exclusively with excellent results. Most advertisers, however, who use both Press and posters, use the Press for telling a more or less complete story about their products, and posters for reminder advertising, and that is why the poster message is usually bold and brief. Poster advertising has now reached a very high standard. Specialists, artists and designers have been brought into the poster business and very truly the modern hoarding has been termed "the poor man's picture gallery." It was in 1885 that the new era started in the poster world, for in that year, Pears brought out their famous Bubbles poster reproduced from a painting by Sir John Millais.

Window display is another specialized form of modern advertising and this has also been brought to a high pitch of excellence. No longer does the retailer just place his wares in the window in a haphazard fashion—he has learnt the desirability of attracting the eye of the potential buyer. While the small retailer is not usually in a position to enlist the services of specialized window dressers, the big stores, of course, have their own window dressing staffs and have carried the art of window display to the highest peak. More and more, window dressing tends towards simplicity.

In recent times, advertisers have been quick to realize the value of the film as an advertising medium. Film advertising technique is a highly specialized subject, but most readers will be familiar with the short type of film which holds the interest as an entertainment, but nevertheless conveys the name of a product and an advertising message. The "publicity" film is frequently humorous in character and increasingly finds a place in the normal film programme of high grade cinemas. A film advertising message can reach millions of filmgoers and certain advertisers have concentrated on this form of publicity. Critics of film advertising have maintained that it is likely to irritate filmgoers who have paid to be amused and entertained and not "sold" a particular brand of tooth paste or washing powder.

Direct mail advertising is one of the older and well-established methods of selling, and, in some instances, the most effective form which can be used. One of the secrets of successful direct mail is the continuity of appeal—it is obviously of little use to send out one sales letter and not follow it up with others. Specialists in this form of advertising have developed a particular

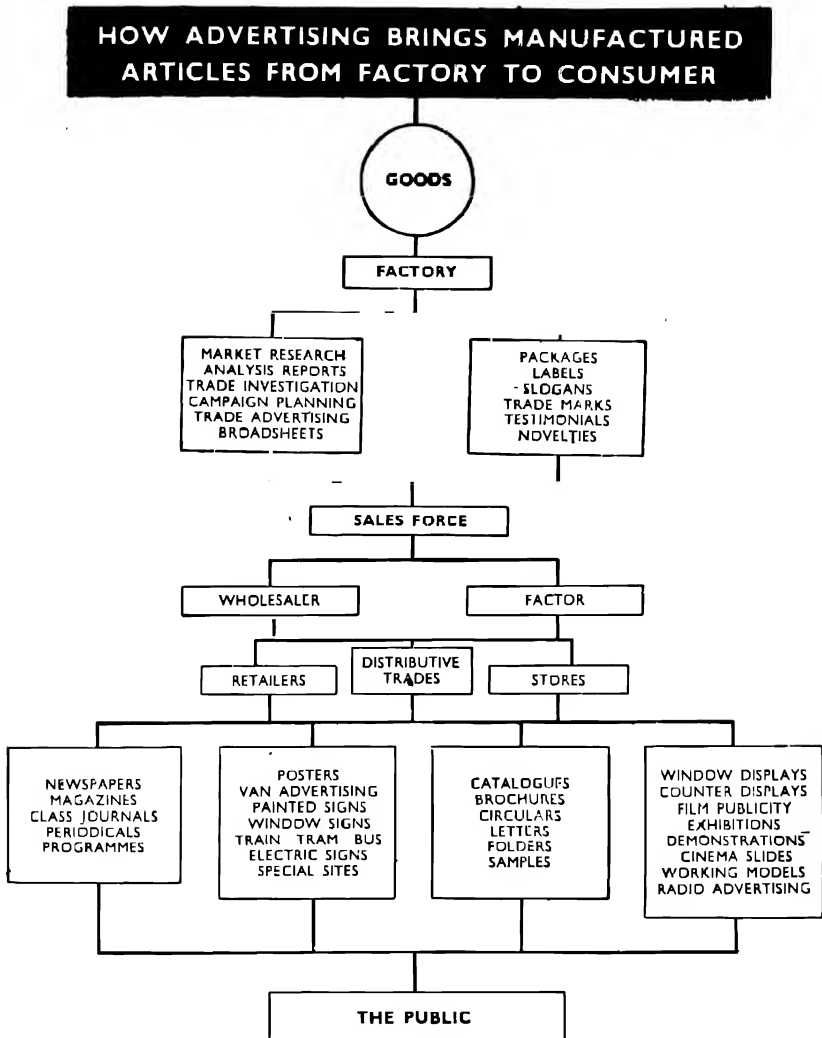


Fig. 1. Diagram illustrating the essential functions of advertising in commerce.

style of sales letter writing and great improvements have been made in the production of letters and the careful selection of recipients. The basic foundation of successful direct mail advertising is, of course, an accurate and well maintained mailing list. Recipients of sales letters must be addressed correctly, and they must not be bored with too lengthy appeals. Frequently the sales letter is accompanied by an explanatory leaflet or booklet.

Briefly it can be said that advertising is now a scientific form of salesmanship. It is no longer the province of the charlatan, but is a method of selling co-ordinated with personal salesmanship and the general structure of commerce.

Properly applied advertising can not only sell goods and services, but it can change national outlook and form national habits.

Let us take as an example the increasing care of teeth. It would be true to say that for years past, dentists and doctors advocated the regular cleaning of teeth and their greater care, but it was the advertising of manufacturers selling dentifrices which really made the nation "teeth conscious."

There are still advertising abuses, but in the main, it can be claimed that a rigid control of advertising is exercised by agents, newspapers and others interested in its application. The public is protected, and rarely is an advertisement continually repeated which does not reach the standards of integrity and truth demanded by the bodies of organized advertising.

In the modern world, with mass production of almost all articles in general use, it would be difficult to imagine commerce without advertising, and it is safe to say that advertising will play a still greater part in commercial development and the provision of new amenities and wider interests.

LESSON TWO

ADVERTISING IN THE SMALL BUSINESS

THE retailer and the small manufacturer are confronted with different problems from those of the big manufacturing or trading concern, which usually employs a skilled advertising agent, and probably maintains an internal advertising department in addition. The small man, as we may call him, convinced that some form of advertising will be beneficial to his business, has to plan and evolve his own publicity, although he may be aided by the staff of a local newspaper, and by a ticket-writer for his window display work.

To-day, with the growth of the advertising agency business, the small manufacturer, who can think only in terms of very modest advertising expenditure, may nevertheless avail himself of the facilities of the agent, and therefore in this lesson we shall concentrate rather on the problems of the retailer—the man with the small shop, whether he be a cycle dealer, a grocer, a watchmaker and jeweller, or a draper and haberdasher. And we must realize at the outset that retail selling problems are different from wholesale, and that they require rather special advertising treatment.

The first essential in successful retailing is that people should come to the retailer's shop—therefore, all publicity efforts should be directed to this end; the shop must be publicized, its location made familiar to everyone in the trading vicinity, and its reputation for quality goods and efficient service established without question.

What avenues of advertising are open to the retailer? First of all, he has a vital, invaluable advertising medium in his own shop window. It is the eye of his shop, it is the advertisement space which can be seen by everyone who passes down the street; best of all, it can not only exhibit

words about the goods sold, it can *display those goods*. In every way, the shop window is the retailer's greatest selling asset, and if he does not make the most of it, he will be missing his one obvious opportunity of creating and maintaining sales. So, let us first examine some of the principles of good window display, and see what the retailer can do to promote sales through his window.

The most common fault in the dressing of retail shop windows is overcrowding. So many retailers seem to think that they must cram every possible article into the window, or they will be missing something. Actually, this overcrowding, this medley of goods, tends to confuse the eye, and the shop-window "gazer" (who is our potential customer) drifts from the window, with no fixed idea of any article in his mind, and certainly with no urge to buy. The retailer should, therefore, aim at simplicity—and he might well consider the methods of the high-class milliner, who has always appreciated to the full the value of "direct eye-appeal," and who usually exhibits just one or two models at a time, so that the woman who looks into the window can get a clear idea of one model, shown with simple distinction—no confusion or cluttering up of the window. Often, the men's outfitter follows the same good practice, and his windows are frequently models of simple, dignified treatment. Such good treatment need not be the prerogative of any particular type of shopkeeper; the cycle dealer can exhibit one machine, and a few accessories; the grocer, although his problems are very different, can avoid confusion, and focus attention on one "bargain line" at a time, with advantage to his sales. (Figs. 3 and 4.)

Apart from the exhibition of actual goods in the window, it is possible to make the window a "silent salesman" by means of posters and window-bills—and here it is that the smallest retailer can secure expert assistance from that helpful craftsman, the "ticket writer." There are few towns, however small, which do not boast one or more ticket-writers, and their work is usually good, and their charges moderate. A bright poster, say double-crown size (30 × 20 in.) can be shown with good effect in the window, calling attention to some bargain, some special offer, and it can link up with the display of the goods inside the shop, but more particularly, with some advertising campaign appearing in the local newspaper.

Ideals

CONNORS

The Service Shops

Fig. 2. A simple example of the ticket-writer's work. Neatly designed cards of this kind do much to help the shopkeeper to achieve a smart and effective window display.

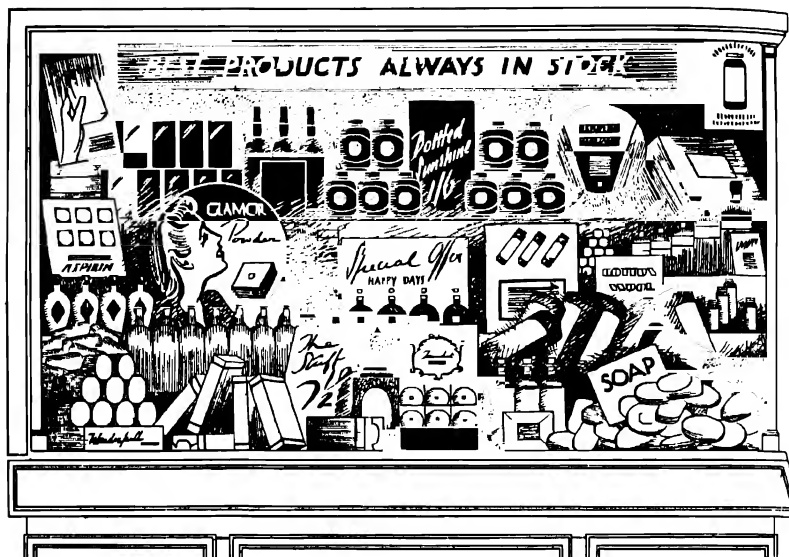


Fig. 3. How window space can be wasted by an overcrowded display of goods

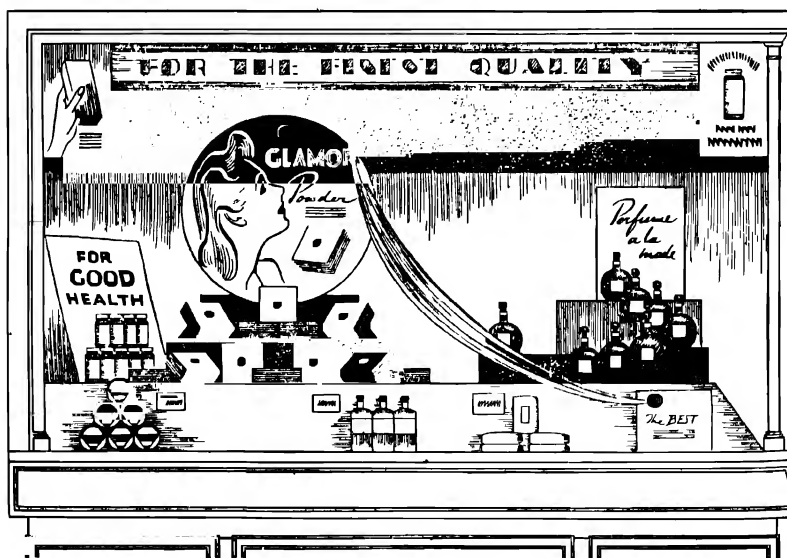


Fig. 4. The same window, re-designed to give a simple and harmonious effect

The mention of the local newspaper brings us to one most important aspect of advertising for the retailer. In many cases, he does not make enough use of the local paper. He seems to forget that it is in a very special category—as vital as, and even more so than, the great "national daily" when it comes to problems of retail shop publicity.

The well-established local newspaper is something more than a paper—it is an *institution*. It is held in esteem and even affection by the inhabitants of a small town or country district. It mirrors the local news which makes a special appeal to the local family.

Value of the Local Newspaper

A man in a small town—we will call it Wrenport—buys a national morning paper, largely from force of habit, and scans the world news, the political news, possibly glances at the racing column, but feels that all he reads is really rather remote from his own life, lived in small circles in Wrenport. However much he may feel interested in world affairs, his own life revolves around the life and activities of his own town. More important to him than—say—a famine in China, is the report of the proceedings of the local bowling club or town council.

And so it is with all local affairs: they are a part of his life. It follows quite naturally that the local advertisements are of interest to him. When he sees an advertisement of John Wheeler, the cycle agent in High Street, he feels that it has something to do with him. John Wheeler's shop has been familiar to him since boyhood. He bought his first cycle there, and now that he is thinking of buying a cycle for his small daughter or son, he reads what John Wheeler has to say about that "Golden Star" machine he noticed in the shop window a day or so previously.

The local paper has a very special significance for the population, and the retailer will be well advised to use its columns for his sales announcements. How to use it to the best advantage? Here again, the matter wants careful thought. An advertisement, to be of use, must be informative, and too many retail traders just insert what might be described as "business cards." They are not informative—

Walter Harrison

Family Butcher

Bull Street

Families waited on daily

That is the kind of retail advertisement which used to appear very regularly in the local newspaper, and while it could not do any harm, it nevertheless fell very short of what might have been accomplished. Walter Harrison, the butcher, should surely be able to find something of interest to say about his shop, his sales methods, his facilities for service? It may be that he procures his beef or lamb from some special source, ensuring unusually high quality. Let him say so in his local Press advertisement. It may be that he has some exceptional arrangements for the efficient storage of meat. Let him say so. He must find a *sales story*, and the sales story is usually there if looked for.

In normal times, the retailer has the opportunity for intensified sales efforts provided by the Direct Mail method of advertising. He will have,



Fig. 5. *An attractive letter-heading is an essential part of a sales letter. It is in itself a valuable form of advertisement which should not be overlooked.*

in the ordinary course of his business, a mailing list of his usual customers. Now, that list is far more than a list of people to whom accounts have to be rendered at regular intervals ! It is a sales weapon and should be kept bright in the sales armoury. At suitable intervals, the retailer can send out a little sales message—perhaps about some new “line,” or indicating some new facility which his shop can provide. It is the invaluable means by which contact can be maintained with customers. And there is nothing more calculated to foster friendly relations with the shop-keeper, than the receipt, by his customers, of well written and well produced sales letters. They form the “link”—and can be used as an integral part of the advertising campaign, which in the case of most retailers should embrace : Efficient shop window dressing ; local Press advertising ; sales letters.

Let the retailer bear in mind that he has two good allies in connexion with his local advertising : the staff of the local newspaper, who will usually be willing and glad to assist in the writing and layout of Press advertisements ; and secondly, the local ticket-writer, who can be, in effect, the retailer's display manager.

LESSON THREE

ADVERTISING DEPARTMENT OF A LARGE FIRM

MANY efforts have been made to define the functions of an advertising department operating within a large firm ; it can best be described, perhaps, as the “spokesman” of the business—the department which makes known the goods and policies of the business, and interprets the usefulness of the goods or services offered. It is a department which functions, naturally, in close relationship with the sales departments and, having received from the sales management the policy of the selling campaign, proceeds to advertise to potential buyers by means of one or more forms of appeal. In some cases, the advertising experts of the department, skilled in the technique of presentation, and familiar with the objectives of the sales force, will use the newspapers for the “advertising story” ; in others, the message will be conveyed by means of posters, radio advertising, direct mail, or films. In some instances, of course, all five methods may be used.

No justification for the existence of an advertising department is necessary at this stage of commercial practice, but it is necessary to state plainly that the department's functions, if properly conceived and administered, need not

in any way overlap the functions of the advertising agent. The advertising department of the firm will, of course, work in the closest contact and harmony with the agent employed, but the duties of each can be clearly defined, and are complementary to each other, and not competitive.

The advertising department must always be considered as an integral part of the selling organization. It is but one of several departments which exist to promote sales, and with those other departments it must of necessity be linked with the activities of the sales manager. If not so linked, it would be easy for the department to be out of line with the sales policy.

Sales Manager and Advertising Manager

But it must be realized that there is a clear line of demarcation between the duties of the sales manager and those of the advertising manager—the latter, having once been provided with the policy of the selling effort, should be left alone to interpret that policy to the potential market, by any technique which he knows from experience to be best fitted to the problem.

In other words, it is fatal for the sales manager to interfere with details and methods of presentation; and it is foolish for him to expect that the advertisements produced by the advertising manager in collaboration with the advertising agent will necessarily appeal to him personally. For instance, the sales manager may have a deep-rooted aversion to humour in advertising, but the advertising manager, with his superior knowledge of mass appeal and advertising technique, may have proved that humour is the best weapon in a particular campaign. The division of responsibility, therefore, between the advertising manager and the sales manager is a matter of importance. Both officials should work together, but the wise sales manager will leave matters of advertising technique to the trained advertising man.

In most large firms, the advertising department will be dealing with various forms of advertising. The firm may use the Press, the hoardings, the films, and also distribute a large amount of advertising literature—booklets, folders, and "mailing shots." Its sales may be through retail channels, and the advertising plan may therefore include extensive window display schemes.

All this indicates that careful organization of the department will be necessary; while all the advertising activities will, of course, be co-related, and have the one sales objective. The differing forms of advertising, the varying technical knowledge essential to employ each "weapon" properly, will involve the selection of specialists for the various posts in the department.

At this stage it may be wise to mention the place of the advertising agent in the scheme. How does he function in relation to the advertising department and its manager? There must be no overlapping of duties. The division of work differs according to the particular problem, but broadly, it may be said that the advertising department prepares the ground for the advertising agent. It provides the agent with the policy story so that the agent can produce "copy" which is applicable. It plans, with the agent, the campaigns—their duration, their specific objects, their territorial application; and it passes "copy"; approves or rejects ideas; keeps accurate records of all advertising expenditure; and by means of regular contact with the sales executives, sees that all advertising is in line with policy, and

that it has the "customer acceptance." In some advertising departments, the division of work is on the following lines:

Advertising Department. Contact with sales management to secure the essential "policy line."

Planning of campaigns in relation to sales territories and possibilities. Supplying to the advertising agent all the "raw material" to enable his experts to prepare advertisements and plan for their appearance. Checking of all proofs submitted by the agent and the recording of all expenditure.

Keeping of accurate records of Press dates and "appearances" of advertisements.

Supply of all booklets, control of all mailing campaigns.

Supplying all "Dealer Aids" in the form of showcards, streamers, counter showcases, etc.

Advertising Agency. Booking of all space—whether in the Press, or on the hoardings.

Fixing of all contracts in connexion with film or radio advertising.

Collation of all voucher copies of advertisements, for submission with accounts to the advertiser.

Preparation of all final "layouts," finished drawings, and ordering of all printing blocks.

ADVERTISER

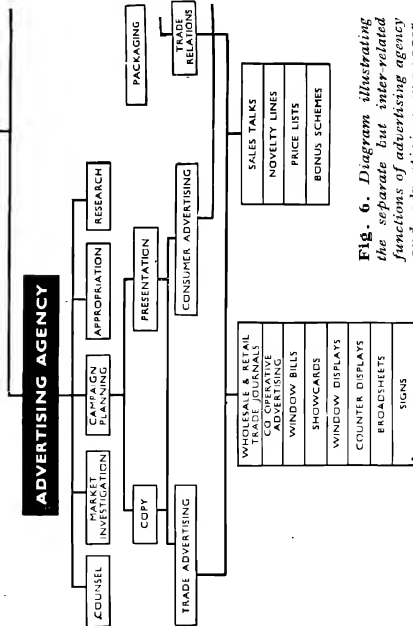


Fig. 6. Diagram illustrating the separate but inter-related functions of advertising agency and advertising manager.

Furnishing of "roughs" in connexion with any campaigns proposed by the advertiser.

Investigation of new markets for the advertiser, and the submission of ideas for new products, packaging designs, etc.

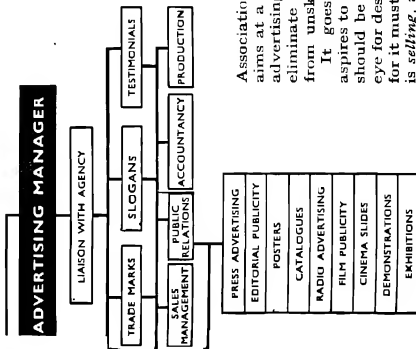
The procedure differs, of course, with many firms, and is dictated by the particular problems which confront the advertiser; but largely, one may say that the advertising manager, and his department, *guide* the agent in matters of policy, suggest schemes, and leave the technicians of the agency to work out the plans, and produce the drawings, the "copy," and the actual advertising which appears in the Press, on the hoardings, or wherever it is intended.

It follows that the advertising manager must possess a sound knowledge of his firm's goods, its sales policy, and also have a good working knowledge of advertising technique. He should know a good deal about printing, about design and layout, and should himself be able to write sound selling copy should the occasion arise. But in the main, his function is managerial, co-ordinating; and he should never allow himself to become immersed in detail. Often, the efficient advertising manager has graduated to his position through other departments of the firm, but whether this is so or not, he will be better equipped to deal with his job if he has a sound knowledge of his firm's goods, policies, and operating methods.

Time was when advertising managers could be appointed without any true experience or adequate training for their tasks, but of late years, it has been appreciated more and more that certain qualifications are necessary for the proper filling of a position which entails control of the expenditure of large sums of the firm's money, and many firms, when appointing advertising managers or assistants, demand that applicants should have passed one or more of the examinations of the Advertising Association.

As far as the advertising manager is concerned, he can, if properly qualified, seek membership of the Incorporated Advertising Managers' Association, a body founded about 1932, which aims at a higher status for all who claim to be advertising managers, and which seeks to eliminate the quack and so protect advertisers from unskilled use of their appropriations.

It goes without saying that anyone who aspires to a position of advertising manager should be a person with gifts of expression, an eye for design, and a real sense of salesmanship; for it must ever be remembered that advertising is *selling*, and not merely an end in itself.



PUBLICITY AND PROPAGANDA : BASIC ESSENTIALS

PUBLICITY is not necessarily advertising ; the two activities have much in common, but they are different in essence, and it may be desirable to outline the scope of publicity and indicate how it differs from what we might term straight advertising.

Publicity is employed by firms in connexion with their products, and in connexion with their relations with the general public and other organizations with whom they come into contact. It is used, not so much to **SELL** things, as to propagate ideas, and create the right atmosphere for trading.

In the main, the publicist gets his propaganda across through the editorial columns of the newspapers. Now, here it is important to differentiate between what the advertising man and the newspaper man call puffs, and the genuine piece of news, which secures its place in the newspaper because it *is* news, and of real interest to readers. Let us endeavour to illustrate the point.

A manufacturer, imagining that by adroit means, he can secure *free* publicity for his products, causes some paragraphs to be sent to a newspaper, the sole purpose of which is to publicize his wares. He hopes that it will pass the keen eyes of sub-editors. Often, he is disappointed, because it is no part of editorial policy to give free publicity to goods and firms ; the latter can secure publicity by using the legitimate advertising spaces, and paying for the space at agreed rates. So, the obvious free puff is something upon which newspapers frown ; it is, largely, publicity designed to escape advertising charges, and is thus undesirable.

But there is another, and quite legitimate type of publicity (as distinct from advertising) and it is used increasingly by many of our big industrial undertakings. Latterly, this type of publicity has been handled by public relations officers, and is designed to effect pleasant relationships with the public and the firm or organization issuing it. In large modern industrial units, with their multifarious activities, their canteen facilities, their sports and welfare sections, their music and dramatic societies, girls' clubs and youth organizations, it is obvious that *something is always happening*. Interesting events are taking place daily ; in the laboratories, vital facts are being discovered about raw materials and their behaviour ; in the canteens, important facts may be unearthed about food values and various aspects of dietetics ; on the sports fields, new records may be established . . . and *all* these things make news. The public is interested in industry because industry touches our lives so vitally, and at so many points.

Public Relations Officers

Thus the publicist or public relations officer has come into being, and come to stay. He occupies a peculiar and unique position in an organization, and his work is necessarily related to that of the advertising manager, and is also closely allied to the work of the welfare officer and the sales manager.

A good publicist must have a real and definite news sense and be able to see a story in an event or happening which would not, perhaps, suggest publicity to the ordinary factory executive. To-day, many of our biggest

firms employ publicists, and give them a sort of roving commission to visit the various factories, interview officials, and collect news items which are finally submitted to the advertising manager; this is essential because it would obviously be undesirable if the advertising manager, in his paid-for advertising appeals, followed one line of policy, and the editorial publicist followed an opposing one in his propaganda.

The publicist should be a man with practical Press experience. Some knowledge of newspaper work, particularly the work of sub-editors, is most desirable, for the industrial publicist must look at news items through the eyes of an editor or sub-editor; he must look at a paragraph, intended for a certain paper, from the editorial viewpoint of that paper; he must know the subjects of main interest to the various journals. If, for instance, he is working for a firm connected with agricultural products, he must know the farming Press. Possibly his employers have been active in research work in connexion with fertilizers, and he has secured, from some factory official, an interesting story of a vital experiment; he must know where to send such a story. He will be better placed if he actually knows the editor of the right farming paper, so that he can interview him, and secure his personal interest.

It is in this way that editorial propaganda works, and the basic principle is that modern industry, whether concerned with transport, coal, foodstuffs, shipping, textiles, or machinery, is something alive . . . something which touches the man in the street, and affects every home in the land. In such a vast field, there must be happenings, every day, which are of general interest to the public. The work of the publicist is not without its valuable link with the vital questions of social service, and employer-employee relationships.

Industrial Welfare

The last war accentuated the importance of welfare work in industrial establishments—but before the war, a great deal was being done in the welfare field by our big firms; nearly every one had its own playing fields and canteens; many had organized games for employees, music and dramatic societies, and debating circles; and the activities of all these organizations, if publicized in the right way, help enormously in bridging the gulf between employer and employee.

To summarize the work of the publicity expert, as against that of the advertising manager, the following points should be borne in mind:

1. The publicist who merely tries to get free pulls for products of firms will fail; the newspaper interests are alive to this trick and know how to deal with it.
2. The acid test of a news paragraph is . . . has it genuine news-interest?
3. The editorial publicist must have, above all else, a sense of news values, and an expert knowledge of newspaper work.
4. He should be able to write up technical matter in an interesting way, so that it will be palatable to the layman.

The main aim of editorial propaganda, as applied to industrial firms, is to maintain good relationships with the general public; to preserve goodwill for name and products; and to create an atmosphere of receptivity for the firm's advertising, by surrounding it with a sense of trust and authenticity.

WORK OF AN ADVERTISING AGENT

THE advertising agent as we know him to-day, originated as a broker—that is to say, he was simply an intermediary between the newspapers which had space to sell, and advertisers who wished to buy that space. The broker's business was one involving some measure of risk, in much the same way as the theatre libraries involve themselves in risks to-day. If there were not enough advertisers to buy the space which the broker had contracted to fill, then he either had to give it away, or sell it, where necessary, below cost. It will be appreciated that the system was a convenience for the newspapers, and assured them a certain stability of revenue.

In the course of time, one or two of the more enterprising of the brokers began to suggest to advertisers that they might draft the advertisements. That, we may say, was the first beginning of the service agency which operates to-day. The brokers began to familiarize themselves with illustrators and artists, and they began to take on layout men, and furnish potential advertisers with ideas both for copy and illustrations. This aspect of the business grew, as it was founded on right ideas and made the brokers much more useful.

Now, it follows that the advertisers soon began to look askance at the broker who was preparing layouts, and giving service to his competitors and fairly quickly there developed the idea that an agent should serve one firm in any given industry and become the man who prepared the advertising advised on publicity methods and generally stood in relation to the advertiser, as an expert adviser. Naturally, there were many vicissitudes in the development of the agency business, but it is as well to outline the origins. One principle has remained—the agent still retains the position of principal in relation to the Press and the newspaper's bills are met by him.

To-day, the advertising service agency has developed to a point where much more is done than the preparation of copy and layouts, and the booking of space in the Press. The modern agency sets itself out to cater, in the fullest way, for the advertising needs of its clients. If the client considers that his goods can best be advertised by means of publicity films, then the modern agency will be able to plan a film campaign—having on its staff the requisite specialists who have studied this form of advertising, and can bring ripe experience to bear on the advertiser's particular problems. Similarly, if the advertiser, in consultation with the agent, comes to the conclusion that the products can best be advertised by posters on the hoardings, then the poster department will be able to prepare the necessary schemes.

Market Research

The modern advertising agency has also developed along the lines of market research. It is able, in the interests of the advertiser, to conduct various forms of research into market possibilities and buying trends, and many agencies are equipped to undertake "sampling campaigns." They send out trained representatives to call, say, upon housewives, to ascertain the reactions to certain methods of packaging, colours and flavours of goods, and similar tests. This is a development which may well grow, as the advertiser no

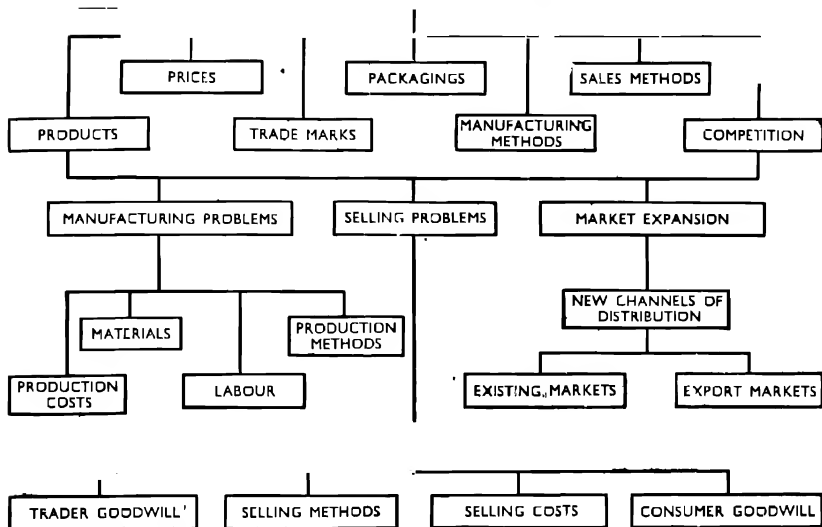
MARKET : TRADE INVESTIGATION : RESEARCH

Fig. 7. Market research is one of the most useful services performed by the advertising agency. Its many aspects are indicated in the table above.

longer relies on hit-or-miss methods when putting a new line on the market : he must be provided with all possible essential data before embarking on his national schemes. (Fig. 7.)

How is the advertising agency paid ? Usually, it derives its revenue from an agency commission paid by the publishers of the newspapers. This may vary from 10 per cent to 15 per cent of the cost of the space. It will be seen that the modern agency service is made into one where the advertiser can choose his agent strictly on the basis of service.

It should be noted that the advertising agent charges his client with the cost of blocks, drawings, photographs and any stereos, moulds, or other duplicating method which may be required, rendering an account direct.

The operations within an advertising agency are extremely interesting, and it will be well to outline them.

The modern agency, which is essentially a business concern, needs to be somewhat strictly departmentalized, and while there can, of course, be no hard and fast rule as to organization, the agency is usually divided into the following sections or departments :

Market Research Department. This functions in those agencies which undertake research work on behalf of clients.

Space Buying Department, whose responsibility it is to purchase all the requisite space in the Press according to advertisers' requirements.

Copy Department, charged with the writing of all the advertisements, the text matter for booklets, pamphlets, etc.

Art Department, where all drawings, etc., are evolved and executed.

Production Department, responsible for producing the advertisement—for artwork, blocks, etc., and seeing the job through to proof stage.

Progress Department, an essential cog in the wheel, ensuring that every job is proceeding smoothly, and according to plan. The work of progress and dispatch is usually co-ordinated, and the two departments together see that, if a client has a space due to appear in a newspaper on a given date, the necessary block is sent off in good time, and that it appears in the agreed space and position.

Dispatch Department, which handles all the sending out of the necessary stereotypes, moulds or other duplicates to the papers in which advertisements have been booked.

Accounts Department, dealing with all the costs of space booked, and the rendering of accounts to clients for blocks, drawings, etc.

Specialist Departments deal with radio, films, posters, "dealer aids."

Contact Men

Where an agency deals with large advertisers, using several differing forms of media, it may be desirable to have one or more executives whose sole responsibility is to a given client. For instance, an agency may be handling an account for the makers of "Ridewell" Cycles . . . a big account, involving constant contact with the advertising department of the firm; and advertising may appear in the Press, on the hoardings, and on the films. The agency, realizing how vital it is for someone to be in touch with every detail of the business, will appoint a contact man, who will act as a liaison with the advertiser, call upon him, and handle the whole account. This convenient method ensures that in the firm's advertising department, there will be executives in daily touch with their opposite numbers in the agency. Every detail of the account will be known to the contact man, and he will be the consultant on any and every point or query which may arise.

Over all the departments mentioned, there will, of course, be the higher management, contacting the directors of clients' firms, and controlling the whole business of the agency in its higher spheres.

In a word, the modern advertising agency is an organization equipped from every angle to publicize the goods or services of clients, to advise on marketing methods, selection of the most appropriate media, and generally work with the client in the promotion and extension of his business. The modern agency has travelled far from the days of space brokerage, and fills an important niche in the structure of modern commerce.

LESSON SIX

ADVERTISER AND PRINTER

WHEN an advertiser includes in his schemes either posters, or booklets and folders, working co-operation between the advertiser and the printer is one of the vital factors in achieving success. In the past, it is true to say that the place and importance of the printer have not been sufficiently recognized; all too often, he has had to follow the layout and

the ideas of the advertising agent, and sometimes this has not worked out in the best interests of the campaign. We must—in our attitude to the printer—start right, by giving him his rightful place as a craftsman. He plies an age-old craft, and has his own ideas as to how the best results can be obtained. The printer, therefore, should be called into consultation when a piece of publicity matter is designed, so that he can advise on choice of paper, economy in sizes, and how to achieve the best results.

The printer is an essential link in the advertising chain: first, the ideas man in the agency thinks out a "rough"; the "rough" is worked up, and a complete layout is prepared. In due course, finished drawings and/or photographs are available, and the point is reached when a printer must be consulted, and estimates obtained for the quantities of leaflets or booklets.

Now, it is easy to hand the printer the layout, and just ask him to quote a price. But the good printer has more than this interest in the job; he will look at it from the viewpoint of a man who wishes to get the finest possible results; he will think about inks, and colours, and paper sizes and qualities . . . and on these matters his advice is invaluable. So, the wise advertising man regards the printer as an ally—one who will have a great deal to do with the making, or marring, of the job.

In most advertising agencies, and advertising departments of large firms, there are men who have a good and workable knowledge of printing; they are familiar with a variety of type faces; know something of the different grades and qualities of paper; and understand the various printing processes . . . letterpress, and offset-litho, and gravure.

Consult the Printer

But the fact remains that the printer is the authority on these matters, and he should be consulted at the appropriate time whenever a printing job is going through. It is easy, when setting out to produce a showcard or a show-sheet, to incur quite unnecessary expense in the number of printings; each additional colour adds to the cost of the job, and if the desired result can be obtained with, say, three colours, there is no point in specifying four. It is on points like these that the printer can give advice, save the advertiser money, and help enormously in the efficient production of the work.

To-day, many firms of printers have their own advertising ideas departments, and put up ideas direct to advertisers. In other cases, they submit the ideas to the advertising agencies, but the latter procedure is obviously not a usual one, as the agency itself stands as the ideas factory in relation to its clients, and tends to regard the printer as merely the man who actually prints the job . . . working to the agency layouts and ideas. It is difficult to forecast whether, in the future, the printer well equipped with ideas men will come more into his own with the advertiser, but there can be no doubt that there are several printers equipped completely to give an advertiser a scheme, incorporating "copy" together with layout and artwork for the advertising matter, and estimates for the cost of production.

The advertiser using printed matter will be well aware of the facilities of the different printers with whom he deals. He will know that printer A is a letterpress specialist, while printer B has a reputation for lithographic work; printer C may specialize in gravure. Then, the biggest firms may

be able to cater for every class of work, from the small letterpress booklet, to the showcard or cut-out in a number of colours. There are firms able to handle all classes of work, including large window-displays, and they are among the most valuable allies of the advertiser.

Apart from craftsmanship, the printer has to satisfy the advertiser on the important question of delivery. Advertising campaigns are frequently rush affairs. Showcards for retailers have to tie up with Press advertising campaigns, and leaflets for the retailer to distribute over his counter must be available along with all the other items of the complete campaign, so the delivery promises of the printer are matters of great importance.

The advertiser who is wise takes the printer into his confidence about the whole campaign, prepares a delivery schedule, and tries to appreciate the time factors involved in producing the work. Better results will be achieved, and harmonious working will be ensured, if the printer has the confidence of the advertiser and knows all about the campaign, and the various breaking dates. To keep the printer in the dark, and expect him to do the impossible in the matter of delivery, is to court disaster.

It is recommended that every advertising man who is entrusted with getting out a campaign, should make himself familiar with the inside of a printing establishment, and acquire a working knowledge of processes, and printers' terms and customs, so that he will be able to see the printer's problems and difficulties. In this way, he will be able to plan so that the printer has a fair chance of producing good work . . . and he will be able to count on the enthusiasm and interest of the printer.

Value of Co-operation

Advertiser, advertising agent, and printer : that is the trio involved as a rule in any big campaign, and if all three can work together as a happy team, then the campaign will stand the best possible chance of being a success. Confidence between all three is essential.

Some advertisers, although employing agents, use them mainly in the field of Press advertising, and when it comes to the production of booklets and folders, consult a firm of printers having the necessary ideas, art, and layout departments.

The great thing to remember is that *printing* is one of the vital planks in the platform, and to get the best printing the printer must be given every opportunity of displaying his craftsmanship.

LESSON SEVEN

LAYOUT OF ADVERTISEMENTS

LAYOUT may be defined as the blueprint or architectural plan of an advertisement. It is the job of the layout man to take all the "copy" for an advertisement (heading, story, illustrations, nameplate, etc.) and, within the space at his disposal, to blend these component parts into a harmonious and interesting whole. It is by no means essential that the layout man should be an accomplished artist, although naturally the ability to draw is an advantage. It is, however, essential that the layout man

should have a good knowledge of typographical practice and the various blockmaking and printing processes. For if we have defined the layout man as the advertisement *architect* it is because the artists, printers, blockmakers and others who will eventually work from his plan, may with equal truth be defined as the advertisement *builders*. And just as it is essential for an architect to have a knowledge of building and building materials, so the layout man must be conversant with the practical side of printing.

The average printer is not a designer any more than the average builder is an architect. Each requires a plan from which to work, and it is the business of the layout man to provide that working plan as clearly and precisely as possible. It is a big advantage for a copy-writer to possess the ability to prepare his own layouts. The technique of copy-writing, as distinct from any other form of writing, consists of more than the mere writing of sales language. It consists also of visualizing the words of a sales message in relation to the advertisement as a whole.

Choice of Type-Faces

Thus the word 'LOOK!' as the heading to an advertisement will depend for its effectiveness entirely on the way in which that word is displayed. In other words the copy writer being primarily a salesman and not just a writer must possess the ability to present his "goods" (i.e. his words) in the most attractive manner possible.

There are an enormous number of printer's type-faces from which the layout man may choose the types for the setting of his advertisement. All these type faces have different names many of them after their designers—'Gill Sans' for example having been designed by the late Eric Gill, and called *Sans* (i.e. sans-serif) because it is a type design without serifs. Each type-design too has a range of sizes and thicknesses.

It will readily be seen that for the layout man to specify "30-point Gill Sans bold" for setting into type the word 'LOOK!' will achieve a vastly different result from specifying "72 point Plantin bold italic" or "48 point Gloucester" (Fig. 5) while if the copy-writer merely left the choice of type to the printer providing him with no plan at all the result would be as chancy as handing a bricklayer some tons of bricks and mortar and requesting him to build you a house.

The display portions of an advertisement—i.e. the heading, illustrations, nameplate, etc.—are usually sketched into the layout, whilst type lines are ruled in to indicate the disposition of the panel or panels of "copy." All instructions to the artist who will eventually do the finished layout, and to the printer who will set the type must be precisely indicated on the layout.

The layout man should be able to appreciate the different effects that can be achieved by the ingenious selection of types, borders, illustrations, etc., according to the kind of product that is to be advertised. A delicate product such as perfume or eau de cologne will obviously call for an entirely different conception of layout style from that needed in the case of a 2-ton truck. An experienced layout man will have developed this feeling for, or appreciation of, type language to a marked extent. A certain bold, black, type face like Cooper Black will at once suggest to him *heavy machinery*. Another Victorian style type face such as Playbill will suggest what its name in this

LOOK!

8-point GILL SANS bold

LOOK!

10 point GARAMOND

LOOK!

12 point TIMES static

LOOK!

14 point ULTRA BODONI

Look!

18 point ROCKWELL

Look!

24 point
FRUTIGER static**LOOK!**30 point
GILL SANS
bold

Look!

36 point
PLANTIN static**LOOK!**

42 point Goudy extra bold

LOOK!42 point
PLANTIN
bold
condensed

Look!

48 point GLOUCESTER

OO

72 point PLANTIN bold static



72 point GILL TITLING

Fig. 8. A small range of the many designs and sizes of type with which the layout artist must be familiar in order to achieve an effect appropriate to a given kind of article. Type sizes are measured in "points" according to the depth of the characters, there are 72 points to an inch.

case implies—while yet another type-face like Locarno will immediately present to his mind a picture of perfume or lingerie.

It is the telegraphic translation of this atmosphere of the product to the eye and mind of the reader of the advertisement that comprises so large a part of the layout man's art. In other words a perfume advertisement should *look* like a perfume advertisement and a 2-ton truck advertisement should *look* like a 2-ton truck advertisement.

The layout man, then, is an architect. It is he who must provide the working plan of the advertisement from which printers, artists, blockmakers and all others concerned with the building of the advertisement must work. And like an efficient architect, too, he must be fully familiar with all the materials at his disposal if he is to achieve the most effective results.

LESSON EIGHT

COPY-WRITING

COPY-WRITING is the art of putting into simple words, clear in their meaning, and forceful in their effect, the advertising message about a product or a service. At once it should be said that the man who can write good English, with a fine literary style, is not, necessarily, the man to make an efficient copy-writer. The question of writing advertising copy is a difficult one, and it has often been proved that the skilful journalist, with a real flair for picturesque writing, may fail as an advertising copy-writer.

The mistake, made by many beginners in advertising is to suppose that the "copy" must be loaded with superlatives, and read like literature. The fact is that the really successful advertising message is generally brief, simple, and does nothing but tell the story of the product in such clear terms that the reader of the message desires to possess it. That is the cardinal point: advertising "copy" must arouse desire, create a sense of need, and convince the reader that he or she is missing something unless the message is acted upon.

Let us bear in mind that readers of newspapers (and it is in newspapers where most advertising copy appears) are busy folk. And—they do not buy a newspaper in order to look at advertisements! They buy it for its news columns, and therefore, if our advertisement is to attract attention, and be read and acted upon, it must be (a) attractive to the eye; (b) sufficiently interesting to be read, and (c) compelling enough to promote desire in the reader.

How does the copy-writer tackle his job of writing an advertisement? It follows that he must first have his *facts*—and these may be provided by the sales manager, or even by a technical official. Many pieces of copy-writing are weak and ineffective just because the copy-writer has not been given the full story. He must be told why the article is made as it is; he must be given all the facts about its correct use and application; he must be taken into the complete confidence of all those who have played a part in producing the goods, and listen to their views about appeal, design, and everything connected with the evolving of the product.

Adjusting "Copy" to Layout

It is only when he has obtained all this necessary background, that he can be expected to sit down and write convincingly about the goods. But he must have his own ideas as well. He must be able to sense just what class of buying public may be expected to be interested. He must know, from his colleagues in the advertising department, where the advertisements are going to appear, and what their size will be. For instance if the copy-writer is told that he is required to write three advertisements about "Sunny Orchard" Jam, and that the advertisements are intended to occupy eight inch double column spaces in the papers, and that illustrations will be included, he knows how he stands as to the length of his "copy" and can plan accordingly.

And here is an important point; there has always been a difference of opinion as to whether the copy should control the layout, or vice-versa.

Some advertising men hold strongly that the layout comes first, and that the layout man should first tackle the problem of the advertisement . . . then the copy-writer, having before him the general shape and style of the advertisement, with a clear indication of where the wording is to be, should write his wording. This plan certainly obviates a difficulty which often occurs . . . the copy-writer producing too lengthy matter, necessitating either drastic cutting down, or a complete re-designing of the layout. The important thing is for the copy department to work in full sympathy with the layout men and build the advertisement together.

An advertisement is not a thing of words only ; there must be design, probably a border, and the whole must present an attractive appearance, and be in keeping with the type of article advertised. By this is meant that certain faces of type, certain borders, are applicable to certain goods, but not to others. For instance, an advertisement for a heavy engineering product should look quite different from an advertisement for—say—a fashionable "swagger" coat, or a dainty box of chocolates. Type-faces can suggest either strength and durability in a product, or lightness and beauty ; a face-cream requires different presentation from a steam wagon ; and a fashionable milliner will require her advertising to suggest her wares, and not to suggest bulk or massive strength.

Methods of the Copy-writer

Let us, for a moment, imagine that we are sitting by the copy-writer who has to produce those advertisements for "Sunny Orchard" Jam. He may have a pot of the jam in front of him as he works . . . in fact it is always a good thing to be able to look at the product when writing about it.

"Sunny Orchard" has been given a good "brand name"—one suggestive to the copy-writer, and one which conjures up a pleasing vision of growing fruit, suggestive at once of something genuine about the product. The copy-writer has been told that the price of "Sunny Orchard" is competitive, and that its distribution is on a wide national scale. He has also been told that there are several varieties, and that the preserving and bottling is done in a model factory, set amid fields. Possessing these facts, he brings his imagination into play, and tries to marshal his facts, and present them in his finished work so that a woman reading his advertisement will feel an urge to buy some of this jam and make a mental note of the brand name.

Remember, the copy-writer knows from the sales staff that grocers have been supplied with colourful counter-cards to display alongside their stocks of the jam. And he knows too that because of good trading terms, grocers are keen to sell "Sunny Orchard." So, our copy-writer can start on his task with enthusiasm, and with a knowledge of the product he has to write about.

He will bear one or two vital facts in mind as he sets about his job :

1. He must be brief, for the space at his disposal is not very large, and he knows that newspaper readers are not folk of unlimited leisure.
2. He knows that his sales message crystal clear . . . there must be no ambiguity in his story.
3. He will keep in mind that exaggeration is not good . . . he writes to sell "Sunny Orchard" to a customer, not once, but many times.

"Truth in Advertising" is no mere platitude; it is a vital necessity if goodwill for a brand-name is to be built up.

4. He knows that his message, however brief, must be arresting . . . his advertisement will be in competition with many others in the paper. With these facts in mind, the copy-writer will probably have several "shots" at an advertisement. Some he may consign to the wastepaper basket as unworthy—imperfect; others he may alter, and re-alter, until he hammers out a piece of copy which satisfies his sense of the fitness and strength of it, and this will be submitted for the approval of his chief. In some advertising agencies there is held what is known as a "copy conference"—and it is at this that all the efforts of copy-writers are considered in the light of the complete campaign; and it must be realized that the Press advertisements may be only one part of a big campaign, possibly embracing posters, a publicity film, and a window display campaign among the retailers selling the line. So, some uniformity of theme and purpose must run through all sections of the effort.

There are times when the catchy headline is important and can mean a lot in Press advertising; but the main selling purpose of an advertisement should never be sacrificed for the sake of "smart" writing. Below is an advertisement for "Sunny Orchard" jams which might be successful. It is given merely as an example of a piece of copy-writing which is not sensational, does not suffer from exaggeration, and yet, coupled with an attractive layout and illustration, might well be regarded as sound and appealing—

SAY

"SUNNY ORCHARD"

when you order jam, and you'll be sure of the purest obtainable.

"Sunny Orchard" is made from fresh fruit from English orchards. It is a product of a model factory, set amid fields and gardens. Its makers have been producing fine preserves for over sixty years, and are proud of their products.

"Sunny Orchard" is stocked by good grocers everywhere. There are many varieties—strawberry, plum, raspberry, greengage, blackcurrant, blackberry and apple, and damson.

Price per two pound jar

OTWAY & ELLERTON

Sunny Orchards

West Whitton

To sum up, the copy-writer should keep ever in mind that he writes for the purpose of *selling*. His English should be good, he must master the art of condensation in view of space facilities, and he must always make his message clear and concise . . . giving the facts that a buyer requires to know. No two products are quite alike, and no hard and fast rules can be laid down on such a complex subject, but the hints given should put a would-be copy-writer on the right road.

One last word: sometimes, inspired flashes produce a brilliant piece of copy-writing, but more often, copy is the result of hard and prolonged thought, aided by all the facts provided by sales and factory executives.

NEWSPAPERS AND MAGAZINES

WHEN we speak of Press advertising we have in mind, chiefly, the advertising which appears in newspapers and magazines or periodicals, and it will be at once appreciated that there is a wide and varied field covered by these categories. Newspapers is a generic term, and covers many kinds of newspaper; apart from dailies such as *The Times* and *The Daily Telegraph*, there are the so-called "national" papers, of which the *Daily Mail*, *Daily Herald* and *News Chronicle* are examples. Such papers usually form the basis of any national advertising campaign, where the advertiser aims to reach large masses of people, irrespective of district.

But apart from these national papers, there are many provincial papers which, because of their standing and prestige, may almost be regarded as "national" in character. The *Manchester Guardian*, for instance, has a national reputation, and in a way a national circulation; it is an organ of such high repute that it makes an appeal far beyond the confines of Manchester and Lancashire, and we may place the *Yorkshire Post* in the same class. In the language of the advertising man, such papers are often termed semi-national and on any big country-wide advertising scheme, they would almost automatically be included, along with papers like the *Liverpool Daily Post* and *Birmingham Daily Post*. Also, if a scheme is intended to include Scotland, the advertising man would include such well established and influential papers as *The Scotsman* and *Glasgow Herald*. The list of newspapers published in Great Britain is a long and impressive one, and the student of media would do well to make a close study of one or more of the useful publications which list the papers and give details as to their circulation, policies, and distribution areas; a volume like *Willing's Press Guide* is invaluable to the advertising student who wishes to become familiar with the different types of media.

Every newspaper reader is aware of the great amount of advertising carried by his favourite paper, and he may sometimes wonder how it is obtained by the paper. What is the machinery which ensures that each issue of the paper has the necessary amount of advertising? Let us look for a moment at this aspect of the matter.

In the first place, the advertising manager, in consultation with the advertising agency employed, decides upon his media list, and decides, too, on the amount of space to be allocated to any given paper; for instance, the advertising manager of a firm which we might call the "Silver Sentinel Cycle Company" sits down with the contacts from the advertising agency employed, and decides that a Press advertising campaign shall be embarked upon, using the national dailies and a selected list of provincial newspapers. Now, we must bear in mind that the selection of such a list will be made with *distribution* facts well in mind—and here is where the sales manager works in such close and helpful co-operation with the advertising executives; it would quite obviously be useless to advertise the bicycles in, say, Nottingham and Leicester if there were no dealers in those districts who were stockists.

With the distribution policy before them, the executives make their decision

about space, number of insertions, and dates when the advertisements are to appear. The agency prepares the schedule, and in due course the space buyer of the agency approaches the newspaper and books the order. The space buyer will be well known to the space seller on the newspaper, because that individual will have maintained a close and personal contact—with the hope that his paper will receive its full share of advertising.

It will be apparent that on the newspaper side there must be a most careful working out of the advertisements to appear on any given day, and the problem is connected, of course, with the amount of editorial matter which has to appear—and it should never be forgotten that newspapers are bought by the public, *not* because of the advertisements in them, but on account of the editorial contents; and the advertising man always has well in mind the fact that this is so. Consequently he wrestles all the time with the problem of how to make his advertisement "stand out" and attract the eye of the reader. In other words, his advertisement is always in competition with the editorial matter and other advertisements.

The layout man who prepares the advertisement shape, and the copy-writer who writes the text matter, work together, and endeavour to produce an advertisement which will compel attention, and make an instant appeal to the eye. The technique of advertisement building is a changing matter, and styles have a vogue, to be superseded by other styles; there are tricks of the trade, so to speak, and a constant delving into ways and means of achieving the desired results.

Advertising Life of Newspapers

The daily newspaper has but a short advertising life; the man who buys his morning paper, hurriedly, from the bookstall in the morning, and skims its contents on his journey to business by bus, or train, or tube, very possibly throws his paper away when he alights at his destination. True, it may be picked up by a railway porter and read by him and others. But, in the main, Monday morning's *Daily Trumpet* is dead by night, and this is a fact to be kept in mind by the advertiser.

If we turn to the weekly provincial paper, we find a different set of circumstances. The well established county weeklies, published on a Friday or Saturday, live for a week—until the next issue comes out. This type of newspaper is a potent factor in Press advertising—more potent and productive than some advertising men may perhaps think. The *Loamshire and Three Counties Chronicle* is more than a mere newspaper in the areas in which it circulates; it is an institution. It holds a place of affection in the hearts of men and women who have been familiar with it over many years . . . and in many cases, these papers were established so long ago, that the grandparents of present readers knew them, and read them.

The reason is that they deal with local topics; they touch upon occurrences in the areas where the readers live—small occurrences to the big national, but of importance to the man in the district. The local flower show, the local bazaar, the dispute over some right-of-way over a common, the local court case in which farmer Hodge is involved—these are matters of high importance to the men and women of the villages and small towns, and because the local weekly newspaper reports them fully, it has a strong constant readership.

If long life is a characteristic of the weekly newspaper, it is an even stronger factor in the case of the periodical or magazine. A national periodical like *Punch* is a case in point. A man buys *Punch* at a bookstall, reads it pretty thoroughly on his journey, but does not leave it on the carriage seat when leaving the train. He takes it home, passes it round the family circle, and very probably, it is sent overseas to the nephew in Capetown, or Bombay. There is a passing round of copies, in the case of many magazines, which is of the utmost importance to advertisers, and if a product is such as to make its inclusion desirable in the columns of magazines, then it can be regarded as fairly certain that the known circulation figures will be exceeded because of the passing on of copies, and the re-reading by many folk. It is usual to make jokes about the old and dog-eared copies of magazines and periodicals which one finds in the waiting rooms of dentists and doctors . . . but those copies, read over and over again by waiting patients, are very productive from the advertiser's point of view.

There is a school of thought which believes that the pocket magazine which has appeared in recent years, is an advantage, and it may well be that many journals will adhere to the handier size. It necessitates, of course, different layout plans, and the advertising man has to get his message into a small space—there are always many advertisers who use small spaces consistently, and have proved them valuable. There is no hard and fast rule about space sizes, and it does not necessarily follow that a large advertisement is more effective than a small, although in many cases the large advertisement may be desirable.

The magazine field is wide and varied. It embraces specialized magazines for women and their interests; sporting magazines and periodicals, like the *Field* and *Country Life*; Society gossip journals like the *Taller*; magazines dealing with every type of hobby and pastime, religious magazines, and magazines specializing in fiction. Whether the advertiser enters this big field, depends of course on several factors—his product, the amount of money available for his appropriation, and whether he wishes to cover the entire country or publicize his goods in certain selective areas, i.e. manufacturing or farming, rural or urban, etc.

One other point when considering magazines: they often offer the possibility of the use of *colour*, and colour in advertising is a great factor, which will be exploited more and more in future years.

LESSON TEN

OUTDOOR ADVERTISING POSTERS

THE poster industry as it exists to-day is a creation of comparatively recent times. In earlier days billposting was based on the fundamentally unsound idea of free space. Any vacant space on walls, house gables or builders' hoardings was used by enthusiastic billposters to display their productions.

This system, it will be appreciated, was open to many abuses. As soon as one fly poster had visited a site and affixed his bills thereto, another fly poster would proceed to obliterate them with his bills for *his* clients. This

system was obviously wasteful and gradually advertisers began to realize that they were spending money to little effect. It was about 1863 that the sounder practice of using rented sites became general.

The development of poster advertising has been along two main lines—(a) there has been a vast improvement in the technique of poster production; and (b) there has been equal improvement in the selection of hoarding sites and the improvement of the hoardings themselves. A great part in this improvement has been played by a Censorship Committee which is representative of poster advertising, printing and allied trades of the United Kingdom. The British Poster Advertising Association is the parent organized body dealing with this phase of advertising. The Censorship Committee undertakes to see that undesirable designs do not appear on the hoardings. It ensures that hoardings do not display any indecent or offensive designs.

Use of Hoardings

Two distinct types of business are intimately concerned in poster advertising—the hoarding owner and the poster advertising contractor. The former owns or leases hoardings or posting stations. He keeps them in good order and displays on them posters provided by advertisers, advertising agents or poster advertising contractors. The hoarding owner naturally preserves his hoardings in good condition and is constantly looking out for new sites.

The poster advertising contractor receives orders for posting from advertisers and advertising agents, and he contracts with the hoarding owners to carry out the work; obtains supplies of bills from the printers; and distributes them to the hoarding owners in appropriate quantities.

His remuneration consists of trade commissions which he receives from the hoarding owner on the value of all space for which he contracts. The cost of poster advertising to an advertiser is the same whether he deals through a poster advertising contractor or whether he deals direct with hoarding owners. In the modern advertising agency, there is frequently a poster advertising department and this department acts as the poster advertising contractor. An agency operating in this way must be recognized by the British Poster Advertising Association.

With the scientific development of poster advertising, the poster advertising contractor has developed service to the advertiser. He is able to advise on the preparation of poster advertising schemes and the selection of designs.

An advertiser who decides to use the hoarding as a publicity medium finds that the amount of sheetage (i.e. the number and sizes of posters) required for an effective display in a given area, can be scientifically worked out. The poster advertising contractor has a great amount of data regarding the value of different sites, population of various towns, and the number of renewals necessary in view of damage by weather and defacement.

The service poster advertising contractor provides trained men to inspect the work of hoarding owners at regular intervals, checks the bills on the hoardings and sees that renewals are posted when necessary. It is obvious that the advertiser using posters must be sure that the hoardings themselves are kept clean and in good condition. This checking work is extremely important. It is a specialized task which is best left to skilled inspectors, and the advertiser is wise who does not attempt to carry it out himself.

MAKE-DO AND MEND



THIS SPACE ON THE POSTER IS FILLED IN
WITH PARTICULARS OF DEMONSTRATIONS AND MEETINGS
IN CONNEXION WITH MAKE-DO AND MEND



ISSUED BY THE BOARD OF TRADE
807 1020



Fig. 9. An example of effective poster design, embodying simplicity and appeal

A great deal has been done in recent years to regularize and standardize rates for poster advertising. On practically every poster site belonging to a member of the British Poster Advertising Association, the rent charged for space is fixed. Rates vary of course in relation to the position of the hoarding and its nature. Some hoarding sites are on temporary buildings and are of a very simple type. The others are elaborate in construction and may be regarded as permanent erections.

Poster advertising is a flexible medium. Some advertisers will need to publicize their products in comparatively poor districts, while others, owing to the nature of their product, will require poster sites in residential areas.

A flat rate is usually charged for periods of thirteen weeks and upwards, with a higher rate for less than this period. As with Press advertising, it is customary for discounts to be passed on by the contractor to the client.

The advertiser who has decided that poster advertising will be the correct medium for his product, will usually consult his agency regarding the type of design, the sizes and shapes of posters most suitable for the product, and the numbers required. It will be obvious that in deciding upon the size of poster it will first be necessary to consider carefully the site where it will be exhibited. It is little use, for instance, having a design for a 32-sheet broadside poster, if the area in which it is to be exhibited has few positions suitable for anything but an 8-sheet upright. In many cases, of course, a design can be adapted for varying poster sizes. In connexion with the poster design, it should be borne in mind that poster advertising is in the main reminder advertising. The advertising message should be bold and brief so that it can be readily seen.

In poster advertising, great attention must be paid to the number of people in any one town who pass given points. Even the non-advertising man will realize that in any town or city certain streets and positions stand out as obvious poster positions, whereas other thoroughfares not carrying a stream of pedestrians or traffic will be unsuitable.

It can be said that poster advertising can be as scientific in its application as Press advertising, and the best types of service poster contractors have a wealth of information regarding populations, sites, traffic and all relative points which must be considered when a campaign is devised.

Allowance for Renewals

When the required number of posters has been decided upon, it is necessary to allow a reasonable margin for renewals. This margin will vary according to the positions of the hoardings, time of year the campaign is undertaken, weather conditions and other factors. It is accepted as a general rule that for the number of posters to be exhibited at one time, an addition of 10 per cent should be allowed for every week of the contract after the first week.

In contemplating national coverage by posters, so many factors have to be taken into consideration that it is almost impossible to give anything but a rough idea of the number of posters required to cover any given area of the country. It has been estimated, however, that if 16-sheet bills are used, some 13,000 bills for simultaneous exhibition would be required to post every good centre in the British Isles including London. Assuming that the campaign is to run for three months, the total number of bills, including allowance for renewals, would be approximately 28,000.

In addition to the charges for posting, the would-be poster advertiser must, of course, be prepared to meet the cost of designing and printing of the posters.

In poster advertising, the unit of paper used is called a sheet and a complete poster consists of one or more sheets in juxtaposition. The size of sheet generally used is double crown (20 × 30 in.). A poster may be either upright or horizontal—if the latter, it is called a *broadside* poster.

There are five main shapes and sizes of posters, namely : 8-sheet upright—60 × 80 in. ; 8-sheet broadside—60 × 80 in. ; 16-sheet upright—80 × 120 in. ; 16-sheet broadside—80 × 120 in. ; 32-sheet broadside—120 × 160 in.

The last named is rarely printed upright and larger sizes than 32-sheet are seldom necessary. There are, however, 48-sheet posters used in certain centres, but the poster advertiser sometimes uses this size as a painted sign instead of a paper poster. This type of advertisement is carried out by a sign-writer.

The sizes quoted above refer to true hoarding posters. There are, of course, smaller posters and different shapes which are used for bus, tram and underground railway advertising. Double crown is a popular size in use in the underground subways.

Posters are generally printed by the lithographic method—for colour work on such a large scale, it is the cheapest and most practical process to use. It is important for the advertiser to specify the use of a good quality paper. Any saving achieved by the use of inferior paper will probably be more than offset by the posters deteriorating on the hoardings during rain, or cracking in intense heat. A paper which is machine glazed on the printing side and rough on the pasting side (M.G. poster) is the most suitable.

Much useful research work has been done in connexion with ascertaining the most effective colour combinations for poster production. The poster artist should work in close contact with the advertising man on the matter. It is interesting to note the results of some of the colour combination tests which have been undertaken from time to time. In a test conducted a few years ago, the following colour combinations were regarded as the six best : black on yellow ; green on pale buff ; black on pale buff ; yellow on red ; yellow on dark blue ; white on dark blue.

It should be noted that the use of outdoor advertising media is usually closely controlled by national and local laws and regulations.

LESSON ELEVEN

DIRECT MAIL ADVERTISING

THE planning of direct advertising campaigns, the design and dispatch of mailing shots, and the elaborate systems which exist for ensuring the necessary " follow-ups " to the various approaches, together form a big subject, and one which deserves a book to itself. In this short lesson, it is only possible to touch upon the basic principles involved, and certain of the more obvious considerations to be observed in connexion with any direct mail approach to potential customers.

First of all, direct mail advertising is based upon the sound principle that it

is good to reach a sales prospect *direct*, by sending him a more or less personal communication, which he cannot ignore. That is the fundamental idea behind direct mail advertising, and, of course, there are numerous firms which have conducted practically all their business through this medium.

On the other hand, there are hundreds of firms which, while practising direct mail advertising methods, do not *sell* through the post, but merely issue what might be termed reminder advertising. In such cases, direct mail methods are merely additional advertising approaches: the firm may also indulge in press, poster, and radio advertising.

For the sake of clarity, we might define the type of business where the mailing shot is sent with the object of securing an actual order, on the spot, as Mail Order business. As against this, there is the business where mailing shots merely remind the receiver and stress the quality of goods or services, but are not necessarily sent out to secure orders by return.

Preparing Circular Letters

In both cases, we have to consider the preparation of circular letters—their composition, and their duplication. The advertiser who issues *printed* booklets or folders makes contact with a printer who produces the material; but the direct mail shot may have to be produced by a typewriting or duplicating organization—a specialist organization which can produce letters duplicated in facsimile typewriting, so near in appearance to an actual typed letter as to be almost indistinguishable from it. There are several firms which specialize in this work, and which are also expert at the process of matching-in the recipients' names and addresses, and at reproducing the sender's signature.

All this work is of vital importance in the preparation of mailing shots, and there are the various other processes involved, such as folding the letters, enclosing them in envelopes, sealing, stamping, and dispatching. In any big mailing campaign, all these phases of the work can be matters of considerable magnitude, and unless the campaign is handled by an expert organization, with all the essential facilities, it will stand no chance of success.

It will be well to consider, carefully, the various processes which are involved in the preparation and issue of some thousands of circular letters. In the first place, the advertiser has to provide the supply of his letter-headings and envelopes. Then, he must provide the circularizing or duplicating agency with a mailing list, containing the names and addresses of all the people to be circularized. Then, he must provide a signature block—as, in the case of thousands of letters, it is not practicable to write in all the signatures by hand.

There is also the task of addressing the envelopes—often done by means of Addressograph plates which form a kind of register in the advertiser's publicity department. There follows the work of tucking in envelope flaps, or actual sealing, and then the affixing of stamps, or, in many cases, the franking of the envelopes by the post-office.

Finally, there is the dispatch to the post-office . . . a special arrangement is obviously necessary, as many thousands of circulars could not, conveniently, be dropped into pillar-boxes or ordinary letter-boxes.

It will be seen, therefore, that a considerable amount of work is involved in the preparation and dispatch of a mailing campaign, and one should bear in mind that throughout the campaign there is the vital personal factor involved.

The object of sending a letter to a man, calling his attention to—say—the " Wizard " Washing Machine, is to give him the impression that *HE* is the person in whom the advertiser is interested ; it is Mr. Henry Jones, of 76 Acacia Avenue, who is in the advertiser's mind—he is singled out for what looks to be a purely personal communication, and not just one of many thousands. Once this personal angle is overlooked, then direct mail advertising loses one of its main ingredients for success.

Post-Office Regulations. When an advertiser embarks upon direct mail advertising, he should bear well in mind that there are various post-office regulations to be considered. They need not be described in detail here, but the reader should note that they do exist, and that they have relation to matters of permissible weight, size, the shape and colour of envelopes, enclosing of samples, the use of reply cards, and posting of certain quantities at printed matter rate. The advertiser who uses direct mail will familiarize himself with all the appropriate regulations issued by the post-office, and will avoid infringements.

Mailing Lists. The importance of the mailing list cannot be too strongly stressed. It is the life line of the direct mailing campaign. If it is out of date, or if it is not the subject of regular and systematic checking, it will certainly not be the valuable asset that it ought to be. It must be remembered that every single letter sent to a wrong address, or to an address which has become out of date, represents a loss and definite wastage. And in direct mail advertising, every shot must pull. So the big direct mail advertiser, with a well-equipped department, usually has several clerks engaged solely on a constant checking of the lists ; addresses are altered as advised, possibly, by sales representatives in the field ; efforts are made to keep up to date in connexion with titles and professional qualifications of the recipients of letters—this is highly important, as no Baronet, for instance, likes to be addressed as plain " Mr."—and a doctor likes to have his full professional qualifications appearing after his name on an envelope.

There are many specialized agencies which keep good lists of various traders such as grocers, chemists and builders, others specialize in lists of professional names—doctors, school-masters, dentists, and estate agents. All these have a special appeal to certain advertisers ; the firm manufacturing a composition for dentures, for instance, may conduct all its advertising by direct mail, and will have to employ a firm having the requisite mailing lists.

Frequency of Shots. At what intervals should the various sales letters be sent out ? No hard and fast rule can be laid down, as circumstances vary considerably, and much depends, naturally, on the type of product advertised, and the appeal connected with it. Many direct mail advertisers follow up their first shot in ten days' time ; others prefer fortnightly intervals between the shots, while in some cases, much longer intervals between the shots are desirable.

Among the large users of direct mail advertising are correspondence schools, postal colleges, and firms specializing in technical books. The mailing literature from these organizations will be familiar to readers, and it is recommended that it be studied carefully, so that the composition of letters, the methods of addressing recipients, the frequency of shots and other phases of the matter may be noted and learned.

SECTION XIV

SALESMANSHIP

LESSON ONE

THE FUNCTION OF SALESMANSHIP

BUSINESS building depends upon three main essentials—finance, production and selling. Each factor is as important as the others. If money were not available the goods would not be produced ; if efficient sales methods were not employed the goods would remain at the factory unsold, and would represent a dead loss to the manufacturer.

To place a commercial enterprise on a solid foundation and ensure that it becomes a profitable and lasting business it must first be organized and then managed on scientific principles. These elementary facts should always be kept well in mind by any person engaged in the work of selling, because they apply to his own work just as much as they apply to any other section of commercial life.

The person about to embark upon salesmanship as a career should realize he is a key man in the industry, and as such must organize his work on a sound basis. The fact that he is, in the main, working away from the office or factory makes it necessary for him to be a strict disciplinarian, self-reliant, and, above all, a good organizer, with a scrupulous regard for detail work, such as the compilation and maintenance of records.

Salesmanship in all its branches is the life-blood of industry, and calls for a wide knowledge and keen business acumen on the part of those who engage in it.

The salesman must have a thorough knowledge of the product to be sold, and a complete understanding of his company's own sales policy and of the policies of its competitors. The work demands a thorough grasp of the uses to which the product can be put ; methods of manufacture ; its bad points, if any, and further basic facts which will be disclosed during the course of subsequent lessons.

The salesman in commerce has a great responsibility on his shoulders, firstly because he is expected to sell the goods made by his company, and secondly because he is the main link between the factory and the buyer. Thus, he is responsible for creating and maintaining a friendly relationship between his company and its customers. Furthermore, the actions and business methods of the salesman are reflected in the customer's opinion of the company which he represents. The standing of a company is invariably judged by the appearance, personality and methods of its representatives.

Kinds of Salesmen

There are three distinct classes of salesman : wholesale, retail, and technical.

Before it is decided to adopt a career in salesmanship careful thought should be given to the class of salesmanship for which the beginner feels he is most suited. The decision is one that cannot be made lightly, because, having become established in one class he will find it difficult to change over to

another. It is important to note, however, that, despite the three different classes of salesman, the fundamental principles of selling remain the same. The differences lie mainly in the nature of the salesman's approach and his method of building up personal goodwill.

Wholesale Salesmen

The wholesale salesman is employed by a manufacturer to sell his goods to a wholesaler or retailer. He has little, if anything, to do with the general public, and his calls are confined solely to wholesalers (who buy in large quantities and sell to retailers at a higher price), and retailers (who sell direct to the public at a still higher price).

The salesman must know all there is to know about the product sold ; must be thoroughly immersed in trade politics ; must be thoroughly familiar with his company's programme and his company's advertising ; and must be on such terms with his trade customer that he is able to make suggestions as to the best way for the wholesaler or retailer to dispose of his stock of goods, so that orders may be placed for fresh stock. Briefly, the wholesale salesman is responsible for filling the wholesalers' and retailers' shelves, and helping to empty them again. The more the process is repeated, the more frequently the salesman collects an order.

The wholesale salesman normally works in a given area only. The number of calls made each day cannot be large. Each call involves planning in advance, and is of much longer duration than that of a salesman selling a single article direct to the public.

In certain phases of selling, wholesale salesmen come into contact with the actual user of the goods, in order to influence him to select his particular product, but the final sale is invariably put through the wholesaler or retailer. An example of this is the sale of a motor-car. If the salesman hears of a prospective buyer of a motor-car he will do his utmost to sell the make of car which he represents ; but at the psychological moment he will bring in the dealer who clinches the sale by having the order signed. One car taken out of stock to meet a customer's order means that the wholesale salesman will receive an order to replace it.

It should be clearly understood, however, that the wholesale salesman seldom contacts the ultimate user of the article, but in order to push his sales he would certainly employ persuasive arguments with the wholesaler or retailer, giving sound reasons as to why his particular product should be boosted above all others.

Retail Salesmen

The retail salesman deals direct with the consumer of the goods. This does not necessarily imply that he is engaged in selling goods from behind a counter—this is certainly one grade of retail selling, and an important one, but there are more.

Quite a number of manufacturers sell direct to the consumer ; for example, most office appliances, such as desks, filing cabinets, typewriters, and office machinery, are sold direct to the consumers, who, in this case, would be business men.

Another type of retail salesman is the one who is employed by the retailer or

dealer. He is in direct contact with the public and his field is wide and varied. His work may consist of selling articles ranging from vacuum-cleaners (an oft-despised but nevertheless lucrative job in which a very fine sales sense is essential) to goods of a much more imposing and expensive nature.

Technical Salesmen

The technical salesman or representative is one who has a thorough training in the manufacture of the goods to be sold. In many cases he holds a science degree. An outstanding example in this field is engineering, where technical knowledge is essential to the sale of a highly scientific product, such as bridges, ships and locomotives.

The number of such openings is, however, strictly limited, and the salesmen employed have usually been apprenticed to the trade, or have studied it for a number of years.

Having made up his mind as to the class of salesmanship to be undertaken, the newcomer should then decide on the type of product which he believes he could sell with confidence. Having done this he should then concentrate on the one job of selling the goods by a strict adherence to certain basic principles, which must be followed if success is to be achieved.

LESSON TWO

HOW TO BECOME A SALESMAN

THE ideal method of becoming a successful salesman is for a youth to join a company and work through the various departments until age and an accumulated store of knowledge qualify him as an efficient and worthy representative. The more diligently he applies himself in this apprenticeship the greater will be the degree of success attained.

A young man whose ambition is to become a salesman should join a reputable company immediately he leaves school and take some position in the office. He should, of course, endeavour to get into the sales department, but whatever the position he may find himself in he should make his ambition known to his employers. A reputable firm will give him every encouragement and will move him from department to department so that he may gain a complete knowledge of the office organization and fit himself for the work he has chosen.

Whilst most companies look favourably upon ambition of this nature, it is up to the employee to show by dint of really hard work, co-operation and willingness, that he is anxious to do his utmost to prove himself worthy to serve the firm for which he works.

While employed in the office the future salesman should study the processes involved in the manufacture of the product which he intends to sell; he should know all the uses to which it may be put and how to gain the maximum service from it. His complete familiarity with his product will enable him to express himself fluently and interestingly, a factor which will play an important part in laying the foundation of his future success, as it will be the basis of all his sales talk.

A salesman who has undergone this training can be said to be trained on

scientific principles, and he holds a distinct advantage over those who have not been so trained.

Another door open to those wishing to embark on selling as a career is to reply to advertisements requesting applications from potential salesmen. They may be given a job at once and then sent to the advertiser's school. These schools are run by quite a number of business concerns, such as those manufacturing vacuum cleaners. The instruction consists of lectures and demonstrations on selling and covers a period of from four to six weeks. The schools are quite good in their way, but the aspirant to good salesmanship should learn how to apply the instruction he receives to other products, if necessary, and to avoid the danger of repeating his story to customers "parrot fashion."

There are undoubtedly certain advantages in the school system, such as instilling confidence and training in methods of approach. The young man who has made up his mind to enter the career of salesmanship should consider carefully how this form of training can be turned to his full advantage.

Qualifications and Qualities

The beginner should dismiss from his mind the false idea that selling goods is merely a matter of personality. Certainly approach, conduct, and manner of talking, influence a sale to some extent, but successful salesmanship must be scientifically planned and carried out. Goods cannot be sold on personality alone.

Another wrong impression is that good salesmen are born—not made. Admittedly certain people show an aptitude for selling, but they would still be unsuccessful if they failed to plan scientifically, and if they paid no attention to the hard work that must precede any sale.

Initiative is an essential qualification for good salesmanship. The salesman cannot ask advice or rely on other persons when making a call. He must adapt his attitude to that of the prospective buyer, whose mood is ever changing. He should, by his attitude and words, impress the buyer that he is not so much selling a product, as offering a service. In addition he must always be ready and willing to offer sound and helpful advice.

Finally, a salesman should have the ability to absorb information readily and to impart it in a pleasantly acceptable form. He should have a good general knowledge and must be sincere at all times.

LESSON THREE

ESSENTIALS OF SALESMANSHIP

THERE are certain rules which, though minor in themselves, contribute to the success or otherwise of a representative.

The first is personal appearance. Obviously a salesman should dress well but not flashily. He should remember that not only by his actions, but also by his appearance, is the standing of his company judged. In the eyes of the buyers *he* is the company, as they have probably no personal contact with other members of the organization.

The salesman should ever be on guard against any irritating or nervous

habits which may offend the buyer. It is surprising the number of sales that have been lost through quite a small, but nevertheless irritating habit being displayed at just the wrong psychological moment.

Small though such habits may appear to be, each one of them can mar the success of the all-important first meeting with the prospective buyer.

The salesman should have complete confidence in himself. If he lacks confidence in himself then obviously he will not inspire confidence in others and this would, of course, be disastrous. Confidence is the foundation upon which all businesses are built, and the business of selling is no exception.

The First Interview

The most difficult job in salesmanship is to secure the first interview. The usual method is to make an appointment by telephone or letter. Some salesmen believe in calling unannounced on the prospective customer. But in the business stress of to-day the time of all business executives is fully occupied and it is in the salesman's own interest to seek an interview and to call by appointment only. Should a request for an interview be made by letter the salesman should give careful thought to its wording. The reader should study carefully the lessons dealing with sales letters in this section and in the English section.

Naturally, the ideal method of obtaining a first interview is by direct invitation from the prospective buyer, whose interest in the product has been roused by means of advertisement or by recommendation from one of his friends.

The next best method is by introduction through a mutual acquaintance, no matter whether he be a business or social acquaintance.

Such easy methods of obtaining the first interview are, however, all too rare in a salesman's life. He usually has to work hard before the prospective buyer will see him. It is not uncommon for a salesman to be refused an interview and it is only after much perseverance that he eventually succeeds in achieving his object, although this may be one or even two years later.

Business houses normally set aside certain days for their buyers to interview salesmen. This results in the buyer interviewing a succession of representatives to whom he can devote only a few minutes of his time; therefore, it is in the salesman's interest to seek an appointment by letter or telephone, as by so doing he may be able to arrange a meeting with the buyer outside the normal visiting day. This will possibly afford the opportunity of a longer interview, thereby substantially increasing the chances of success.

Whether the method of securing the interview be the easy or hard way, the same amount of effort must be used in each case to ensure the success of the meeting. The initial meeting is only the first move: converting the result of the meeting into a sale is the last and more difficult move.

Having succeeded in arranging an interview, the salesman should give careful thought to the manner in which he will approach his prospective customer, and marshal all his facts and figures so that the maximum information is given in the shortest possible time.

At the opening of such an interview, the first ten or twenty words the salesman utters may well decide the success or failure of the meeting. These first words are more valuable to a sale than the next thousand, and it is on these

that the buyer sums up the capability and character of the salesman, and the company he represents. It works also in the opposite direction ; the salesman sums up the buyer in his first few sentences, and the skilful salesman knows within two or three minutes whether there is any possibility of effecting a sale, and if it is likely to be at that moment or later on.

The salesman, having got over the first few words, should immediately adapt his actions and words to the mood of the person interviewed. Only experience can make the beginner expert at this, but generally speaking there are certain rules which can be laid down as governing the art of handling the first and subsequent interviews.

The first is the rule of "A.I.D.A." This rule applies to all selling efforts, no matter whether they are by personal representation, by advertisement, or by letter. It is a rule which should be carefully memorized and practised, as it covers the progress of a sale from start to finish, no matter whether it be completed at the first interview or after a series of meetings.

The rule of A.I.D.A. is : Attention, Interest, Demand, Action.

Attention. To attract attention. This has partly been achieved by having secured an interview, but must finally be held by the opening words of the salesman.

Interest. To create interest is the next step. This need not necessarily refer directly to the products of the firm, but preferably to matters connected with the prospect's own business ; or possibly it may refer to some mutual acquaintance, or an item of news of personal interest to the buyer.

Demand. Having aroused the interest of the buyer, the next step is, by a relation of facts, to lead up to the product to be sold in such a way that the prospect is convinced that he must buy the goods which the salesman offers.

Action. Having created the demand in the mind of the prospect it is the salesman's job to convert this to action by collecting an order on the spot. The newcomer to selling usually covers the first three steps satisfactorily but more often than not he is informed that the prospect will think the matter over. It is the salesman's one aim in life to collect orders on the spot and resist delays, as delay may well result in the order being lost. The salesman should try at all times to *complete* the cycle of the four points of selling during the first interview.

The salesman will, of course, be fully primed by his own company on sales talk, but he will find as time goes on that he can improve on this as interview succeeds interview and he gains more confidence. He will develop a technique of his own, a technique suited to his own personality as well as to the product to be sold.

In addition to following the A.I.D.A. rule, the beginner will gain help from the following hints in his early days of active selling :

1. Have the complete sales story ready before entering a prospect's office.
2. Use as few words as possible. Any word which does not help make the sale endangers it.
3. Always look at the product through the eyes of the prospect or buyer.
4. Frame your words so that the buyer is left with a choice between something and something—never between something and nothing.
5. Do not be afraid to ask leading questions, but the question should be carefully framed so as to make it natural and easy for the buyer to say "yes."

6. Learn the prospect's objections to the product, if any, before the interview, and be ready with answers which will remove these objections.

7. Don't be too aggressive. It is so much more simple and effective to lay facts tactfully before a buyer, giving him time to digest them, so that he may change his mind and make his decision without resentment.

8. Don't hesitate, stammer or stutter : know what has to be said and say it with all the confidence born of the knowledge that your story is the right one.

9. Don't think so much about what has to be said as about what the prospect wants to hear.

10. Don't fumble with your papers ; have these in the order required and open at the right place ; never litter the prospect's desk with catalogues or papers.

11. When possible always give preference to " you " and not " I ".

12. Never talk derogatorily about competitors.

LESSON FOUR

BUILDING UP GOODWILL

GOODWILL is the salesman's most priceless asset, and one which should be safeguarded at all times.

When the young man starts on his career of selling he starts from zero—he must earn his goodwill over a period of years. Once he has earned goodwill he finds that he gains the confidence of his customers and his work is eased considerably in future selling efforts.

Like everything else worth having in this world, there is only one certain way of acquiring a priceless treasure, and that is by hard work. Once having acquired such a treasure as goodwill, hard work is still necessary to retain it.

The following are the foundation stones upon which all salesmen should build their edifice of goodwill :

1. Be honest and straightforward in all business dealings.

2. Never make a promise which cannot be honoured.

3. Be punctual ; nothing destroys goodwill (and sales) more rapidly than unpunctuality.

4. Honour all obligations, no matter how small.

5. Be trustworthy, reliable and sincere in all matters.

The five points mentioned are rules of everyday life and call for no elaboration here—sufficient to say that if young men or women who intend adopting selling as a career feel they cannot follow naturally each and every one of the five points mentioned, then they should immediately drop all idea of entering salesmanship and seek a career for which they are better suited.

Service—The First Essential

Service is the first essential in building goodwill : service not only to the potential buyer, but also to the buyer who has already placed an order for the goods represented.

It follows naturally that in order to convert a prospect into a buyer the salesman must go all out to render the maximum service. He should at all times strive to create the impression when selling that he is not so much selling

goods as offering a service ; a service which is as much in the interest of the buyer as the seller."

Two simple examples may be taken to illustrate this point. In the first example let us picture a salesman who is representing a firm which manufactures machines for printing office stationery.

He has already proved conclusively that the potential buyer's printed matter could be produced more efficiently, speedily, and conveniently than the present method of sending to outside printers. Then he brings out the two final points which would remain uppermost in the mind of the buyer : quality of the printing produced and the cost compared with present sources of supply.

The salesman, by means of specimens of printing produced on the office printing machine, and also by comparing costs of production against those originally incurred for outside printing, can convince the prospect that the machine in question would produce the same quality of work and would also cut printing costs by, say, 30 per cent. Having reached this stage, with the prospect somewhat impressed but still perhaps with a few lingering doubts, the alert salesman would seek a way to offer a personal service. He could say, for instance, that to enable the potential buyer to judge the quality of the printing he would be only too pleased to print one of the buyer's jobs, with absolutely no obligation on his part, which could be compared with the printed matter in stock. He could also point out that while the figures and facts quoted about the money which could be saved are correct in every detail, certain users save more than 30 per cent, others less.

The salesman would mention that he personally would not recommend the installation of the printing machine unless it promised to save at least 20 per cent on the normal printing bill, and if the buyer would provide specimens of his printed matter he, the salesman, would be only too pleased to work out the cost of printing on his machine. The buyer knows what he is paying for similar forms at present and can easily work out the percentage of saving on each job. When these two services are performed, the buyer will be impressed beyond doubt. Finally, to sway the sale the salesman would no doubt emphasize the point that the machine would have paid for its initial cost in one or two years, as the case may be.

Thereafter it is a question of clear saving, quite apart from the advantages of speed, efficiency and convenience.

Note particularly that in offering a service the salesman displays complete confidence in his product and creates a feeling of confidence in the mind of the prospect.

For our second example, take a representative of a tyre company selling tyres to an owner of a large number of vehicles. Obviously, talking alone will not make the vehicle owner suddenly switch over to another make of tyre unless he has concrete evidence that he will benefit by so doing.

In a case like this the salesman might concentrate on having a set of tyres fitted to one vehicle only, and having them tested under the same conditions as the make at present fitted. Some cards or forms could be printed for the vehicle owner so that he could keep an up-to-the-minute record of mileage and performance of tyres on every vehicle in his fleet, in addition to the salesman's own tyres. The test would, of course, be spread over a long period, which gives the salesman many opportunities to offer service to the owner. For

instance, he may notice that tyres are wearing unusually fast on a certain vehicle. He might then find out the reason for this, probably some mechanical defect, and advise the potential buyer of his discovery. He may notice the wrong type of tyres fitted to vehicles used for certain classes of work, and again he would report this and any other points which might help the owner in the more efficient operation of his fleet. By adopting this attitude the salesman is all the time gaining the increasing confidence of the buyer, who begins to look upon him as a friendly adviser.

When the results of the tests are known it may be that the salesman's tyres have done as well as, but certainly no better than, the original make, but the additional service which the owner would obviously receive might induce him to place all future orders with the salesman in question.

There are hundreds of similar examples which come to mind, but enough has been said about service which should be offered to lead up to a sale.

After-Sales Service

After the sale has been made the successful salesman will then bring service into full play and thus add more to his goodwill than he would by any other method.

The sale is not the end of the salesman's job, it is only part of the transaction. In fact it has been said the salesman's job really starts when he has received his first order from a customer.

A golden rule for any salesman is to look upon the initial sale as the first step only. The remaining steps consist of service after sale, and this is the safest and surest way of building up a sound reputation, thus ensuring a steady flow of repeat orders.

After the order has been booked the salesman should follow it through with his sales department and ensure that the goods are delivered by the promised date. After delivery of goods he could re-open contact with the buyer by inquiring if the goods have been delivered in good order and are satisfactory. In addition, the salesman should ask if he can be of any further assistance in the use of the product, and whether by advice he can be of help in ensuring that the buyer gets the utmost value from his purchase.

Such a follow-up is always appreciated by the buyer, who is much more impressed by such after-sales service than by anything else which lies within the salesman's power to offer.

There are many different methods of contact for after-sales service and these will readily suggest themselves to the alert salesman. For example, consider the office printing machine salesman and the tyre salesman.

The office printing machine salesman would give after-sales service on the following lines :

1. Offer to find an operator for the machine, or alternatively offer to train a member of the buyer's existing staff to work the machine.
2. Make suggestions for the method of laying out the department in which the machine is installed.
3. Give the operator hints on how to handle certain jobs.
4. Make regular calls to ensure that the printing work is up to the standard promised—if not, coach the operator on how to improve work—and give hints on extra jobs which could be printed. Finally, ensure that the printing is

being produced economically and is making at least the savings promised.

In the case of the tyre salesman, he would make occasional calls to ensure that the tyres are giving satisfactory service ; if not, he will find the cause and make recommendations to the vehicle owner. Advice may be given on how to make tyres give maximum service through adjustment of vehicles, loads on tyre pressures and on technical matters generally.

It has been pointed out that after-sales service builds up goodwill—it does more. The growing confidence which the buyer has in the salesman leads to repeat business, and additional orders go to the man who not only has the entrée to the buyer's presence, but also has proved over a period that he offers the buyer a service and is not merely interested in collecting orders, dumping the goods and leaving it at that.

LESSON FIVE

ADVERTISING CO-OPERATION

ADVERTISING is not a competitor of the salesman ; on the contrary, it can be his greatest ally if he uses it wisely.

The function of advertising is to prepare the way for the salesman ; in other words, advertising opens the door for the salesman who, with his own experience and training, and by close attention to the rules of A.I.D.A., walks in and collects the order.

The salesman should study carefully all of the advertising undertaken by his company, i.e. newspapers, trade magazines, leaflets or films, because he will gain some valuable arguments for the product he represents, and in addition he can elaborate on the themes advanced through such mediums.

Advertising is considered such an important weapon in the salesman's armoury that it is quite a usual practice for firms to send copies of all their advertisements to salesmen for their information.

Advertising can be of immediate help to the salesman when a new article is placed on the market, or a special selling campaign is taking place in a certain district. In such cases the salesman is provided with complete data of the campaign weeks in advance and provided with specimens of advertisements so that they may be shown to potential dealers in the product or, alternatively, to help persuade existing customers to stock greater quantities of goods.

The argument which the salesman invariably employs is that the advertising is bound to create a demand or a greater demand for the particular product and therefore it is in the dealer's interests either to stock the item or increase his stock, so that he will be in a position to meet the demand and thus increase his own profits.

Perhaps the greatest assistance advertising can offer the salesman is in an intensive campaign to strengthen a weak sales area.

Where a salesman meets a great deal of opposition through competitors' activities, or apathy on the part of stockists, the company will in most cases institute an advertising campaign in the district affected, if requested to do so by the salesman, and thus help to break down the barriers. Such campaigns are usually organized after close consultation between sales manager, advertising manager and the salesman concerned. When finally decided, the

campaign would probably cover such items as advertisements in local newspapers, bill posting, and window displays on stockists' premises.

In most cases it is possible for the salesman to gain the ready co-operation of dealers, who assist by issuing leaflets and having their names featured in press advertising.

In order to gain initial or increased orders the salesman should visit all prospects and customers in the area concerned and show them the advertising plans before the local campaign begins.

LESSON SIX

SALES LETTERS

IT is recognized that the spoken word is the salesman's best means of expression and he is not expected to spend a great deal of time in expressing himself through a medium to which he is less suited.

It is usual, when a salesman is appointed to an area, for his firm to notify all prospects and customers in that area that the appointment has been made and that the salesman will take an early opportunity of calling upon them. In order to give the salesman a good send off the date of each call to be made is specified in the letter.

Thereafter, the salesman is left to his own resources, but occasions arise when he wishes to have a letter sent to a prospect with whom, despite repeated calls, he cannot secure an interview.

In such cases the salesman requests his office, on his daily report, to write direct to the customer giving him any desired information and for his information and guidance the salesman receives copies of all letters of this kind which may be sent.

The salesman should make the utmost use of sales letters prepared by his office, because a buyer is usually impressed by letters received from the service manager, technical manager, sales manager, or accounts manager, as, apart from the fact they have the stamp of authority, the buyer also feels that his account is sufficiently valuable to warrant letters from highly-placed personages. These letters are, needless to say, carefully designed to lend full strength to the arguments put forward by the salesman.

It is not in all cases that the office undertakes to write letters for the salesman, and it is sometimes left to him to conduct all correspondence with prospects and customers himself. This mainly applies where the article to be sold is of a costly nature.

It is assumed that the learner has a general knowledge of commercial letter writing, but the following additional hints will be of help to the salesman who is called upon to write his own letters :

1. The first paragraph holds or kills the prospect's interest ; therefore give special attention to the framing of it. The first few words of a letter are more important to a sale than the following hundred.

2. Apply the rule of A.I.D.A. to each sales letter so that it succeeds in leading up to the action desired by the writer.

3. Do not write long letters—be brief and factual.

4. Ensure that the spelling of the recipient's name is correct—a man's

name is his precious possession and he may become most annoyed if it is misspelt, thus giving a bad opening for the salesman.

5. Where possible, write to Dear Mr. So-and-So, and not Dear Sir. This should not be done, of course, until the salesman has already met the buyer, and even then he will have to exercise discretion in the matter.

6. At all times give the impression that the letter is not so much a request to buy goods as an offer of service.

From the above six points it will be seen that the same procedure for the writing of sales letters is followed as for selling goods by word of mouth. This actually is true—the only difference is that a letter endeavours to sell by the written word instead of by the spoken word.

LESSON SEVEN

RECORDS

A SALESMAN is called upon to maintain certain records, although in modern business it will be found that these are reduced to a minimum to enable a representative to devote practically all his time to actual selling.

Records fall under two headings : (a) head office reports and (b) personal records.

The purpose of reports to the office is to give the sales manager a complete picture of the salesman's activities and progress. In addition the sales manager relies upon a salesman's reports to provide him with details of conditions affecting sales in the salesman's area, including competitors' activities, and suggestions for improving the product, packaging, and sales policy.

It will be seen, therefore, that the salesman must give careful consideration to the question of preparing reports in order to ensure that the maximum amount of information is given.

The following are details of the reports usually required by the sales manager :

Daily Report. The daily report is invariably written on a special form which is ruled in columns with the following headings : (a) Name and address of firm called upon ; (b) Person interviewed ; (c) Result of call ; (d) Total amount of order collected (if any) ; (e) Information of interest to the company.

The salesman's remarks under each heading should be kept down to the minimum : for example, under the item (c) the salesman should merely record " interested ", " not interested ", " order collected ", " order promised ", " no result, but possibilities ", or whatever wording gives a true, but short account of the visit.

The sales manager is only interested in the result of the interview and not in the steps leading up to the result.

Under the heading " Information of interest to the company " the alert salesman can provide his company with a wealth of detail concerning his area. The following is a brief list of subjects which can be covered under this heading : (a) Competitors' activities, i.e. new lines, special local advertising and local sales drives ; (b) Performance of product ; (c) Details of sales resistance met with, due to performance of product or sales policy ; (d) Local conditions affecting sales ; (e) Dealers' or users' comments.

Obviously this column would not be used against each prospect's name, but would be a brief summary of the day's calls.

It is normal for the salesman to be called upon to make a weekly or monthly report on information of interest to the company, in addition to his detailed daily summaries.

A copy of each report should be retained by the salesman.

Order Form

Certain companies provide special order forms for the customer to sign, and in such cases it is essential that the salesman should obtain the buyer's signature to it when completing a sale. The buyer will appreciate it if the order is ready for signature, the salesman having filled in all the details beforehand.

If a standard order form is not provided the salesman must ensure that a written order, or confirmation of the order, is obtained from the buyer.

Expense Sheets

There are two methods of payment of expenses, the most popular being a reimbursement of expenses incurred by the salesman in pursuit of business, such as fares, subsistence and entertainment.

Where actual expenses are paid, a special form is normally provided on which the salesman enters details of his out-of-pocket expenses. Expenses sheets are usually rendered weekly, and the amount claimed paid during the following week.

The second method of meeting expense is for the company to make a fixed grant daily, and from this sum the salesman draws whatever monies he may require for the purposes specified.

Personal Records

All calls made on both prospects and customers should be planned scientifically so as to ensure that they are not too frequent, but only at suitable periods. The way to achieve this is for the salesman to keep personal records of all calls made, in addition to the records which he sends to his head office.

In preparing such records the salesman should adopt some simple but efficient system which provides the desired information but at the same time takes very little time. Every unnecessary minute spent on records is time lost in selling, and turnover suffers accordingly.

The type of record employed varies with the product, but, generally speaking, there are two records which will serve the purpose: (1) a diary, and (2) call cards.

The diary should be used for all future engagements. Immediately after a call on a prospect or customer, the salesman should enter the name under the date of his next proposed call. This simple method is quite efficient and if carried out at all times obviates the risk of calling too often or not often enough.

The card system is sometimes provided by the company represented for the salesman. In cases where such a system is not supplied it is in the salesman's own interest to prepare one himself. The system consists of a series of cards, one for each prospect or customer, containing the following information: Name and address of firm; name of buyer; dates of calls; results of calls.

The cards are filed alphabetically, or, depending on the size of the salesman's territory, in town order, district order, or street order.

Immediately the daily report has been completed the information should be transferred to the call card, thus providing the salesman with a complete and up-to-date record of all calls made.

These cards should be examined from time to time in order to ensure that all prospects and customers are being visited regularly. When visiting any town or district the salesman will find it is a simple matter to check the relevant cards and so avoid any loss of time by making all necessary calls in one visit.

Representation Overseas

With the ever-increasing commercial competition and the constant search for fresh markets, ambitious and far-sighted salesmen are being afforded opportunities such as never before existed. And in this widening field of opportunity, education plays a very important part. The day of the haphazard sale and untaught salesman is past.

Prominent industrial undertakings, particularly in the world of engineering, have business ramifications which are world wide. Although the continental and overseas interests of these concerns are fairly well represented locally, most of them employ their own representatives to visit buyers in all parts of the globe, and for the salesman who has the education and high ability for this interesting sphere of endeavour there is undoubtedly a bright and colourful future ahead.

As this work involves a considerable amount of foreign travel and association with important industrial executives, it is evident that a high standard of education is essential, not only from the technical point of view but from the academic as well. Languages obviously play an important part and the greater the fluency attained in this direction so much better will the salesman be equipped.

Every facility is afforded the salesman by his company. He is treated with all the respect and consideration which his position demands. He travels in every comfort and the best hotel accommodation is provided. Nothing is left undone that will enable him to maintain the status and dignity of the company which he represents.

On the other hand the salesman must never forget that he is the sole representative of the company and that the reputation of the company depends on him. His manner of approach and contact must be unimpeachable; he must be capable of making quick and sound decisions; his business acumen must be equal to that of, not only the customer, but the competitor who, quite possibly, may be without scruple in his business methods. In other words, the salesman must be completely self-reliant and fully alive to every possible contingency.

The remuneration for this highly specialized work is usually commensurate with the education and rare degree of ability required, but in addition there is the reward of a life full of variety and never-ending interest. Many countries will be visited during the course of this calling; many strange peoples met; an insight will be gained into the habits and customs prevailing in many parts of the globe: surely a vocation which will appeal to the truly ambitious, the ambitious who indeed make work a pleasure.

SECTION XV

BUSINESS STATISTICS

LESSON ONE

HOW INFORMATION IS COLLECTED

THE object of business statistics is to present financial and technical data in easily intelligible form. Statistics are thus concerned with the collection, analysis and presentation of business information.

The collection of information by statisticians, other than business statisticians, is often very difficult, but in business all the information that is likely to be required has usually been carefully recorded by the book-keeper or costing clerk. The statistician has merely to refer to these departments for any information he needs; and his suggestions for modifying the book-keeping or costing system so as to facilitate the collection of clearer and more extensive information are usually welcomed. Examples of such modifications are the inclusion of analysis columns in the books of original entry and the costing ledger, as illustrated below.

PURCHASE JOURNAL

Analysis columns for statistical purposes

Date			Total			Cars			Tyres			Petrol			Accessories		
			£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
Jan.	1	A. B. & Co., Ltd. Invoice 1054	2052	0	0	1500	0	0	400	0	0				152	0	0

COST LEDGER

Dr.

PLANT EXPENSES ACCOUNT

Analysis columns for statistical purposes,
based on machine running hours.

Date			Total			Plant A			Plant E			Plant C			Plant D		
			£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
Jan.	30	To expenses for month	325	0	0	27	0	0	48	0		152	0	0	98	0	0

An analysis of sales on similar lines will enable statistics to be prepared of the relative remunerativeness of the different sections of the business;

statistics of the running costs of the various plants will indicate which plants are profitable and which are not, which should be closed down and which retained.

Whenever the statistician relies on other people he must be careful to state the source of his information. Even then he is not exonerated from all responsibility regarding the collection of material. He will, of course, have to choose the information he proposes to use. This choice will depend upon the statistics he has been asked to prepare, or upon the statistics that he himself considers will be a useful aid to business administration.

If only general statistics are required, a glance at the minutes of recent meetings, conversations with directors and foremen, or careful study of business trends, will indicate the directions in which statistical research is likely to be most advantageous. Of general financial information, the most suitable data for statistical manipulation are usually the figures of sales and gross profit, of wages and power costs, and of interest and depreciation charges, with calculations of mutual ratios and percentages.

The ordinary shareholder will certainly be interested in a comparison of the year's sales with sales in previous years, and of sales by the company with sales by a similar company during the same period. He will probably appreciate calculations of the percentage of gross profit to turnover (sales), of net profit to the amount of capital employed in the business, and so on.

If the agenda of an approaching meeting include the discussion of some unusual matter (e.g. changes of policy in view of the high level of taxation), statistics of the relevant aspects of the subject should be prepared for the purposes of the meeting.

Technical statistics will depend very much on the nature of the business. The collection of information for their preparation naturally calls for at least a smattering of technical knowledge. Quantities of output by various departments, stores control, technical progress, the results of labour incentives—these are typical subjects of statistical analysis as will be illustrated in subsequent lessons.

Sources of information outside the business may sometimes prove of considerable importance in statistical work. But in whatever form the information is collected, the next step is to test its accuracy. In some cases it may be necessary to resort to estimates; if so, some indication of the probable degree of accuracy should be given whenever the figures are used. For example, the estimated hourly output of a machine may be expressed thus: 300 ± 30 , meaning that the estimate is correct to within 10%, above or below.

Estimated figures will often be necessary where the information available is incomplete. It will often be found, also, that figures apparently complete are not so, owing to carelessness, delay or some other factor. Figures representing the sales of a large firm are particularly susceptible to the omission of sales in, for example, one of the branches; the figures have not yet arrived or they have been forgotten. A test of completeness is therefore indispensable.

Uniformity of the information collected is vital if the statistics are to be of any use at all. A comparison of the efficiency of machinists measured by output would seem to be reliable, until it is known that the machines

used are of different types. Similarly, the sales of a commodity during two periods cannot be satisfactorily compared if the standard of the commodity has been changed. Indeed, it will usually be found that uniformity of statistical material is particularly difficult to ensure; and if, after considerable trouble, it cannot be ensured, the only alternative is to reject the material or make special notes of the extent to which the information is lacking in uniformity.

Finally, a scrutiny of the information should be made to verify its suitability for the purpose in hand. Most statistics present only a numerical aspect. How far will a purely numerical aspect of the matter be of assistance in arriving at a particular decision? Might it not be definitely misleading? Even where a numerical aspect is helpful, an alternative choice or arrangement of information may be advisable. All these factors call for judgment and discrimination in the light of particular circumstances, as much as for statistical skill.

EXERCISES FOR PRACTICE

These exercises are based on the information given in the above lesson.

1. What useful information can the book-keeper prepare for the business statistician?
2. How will the statistician decide what statistics to prepare when he has received no specific instructions?
3. What precautions are necessary in the collection of statistical information?

LESSON TWO

HOW INFORMATION IS CLASSIFIED

WHEN information has been collected and scrutinized it has next to be arranged in tabular form. The arrangement of figures in rows on some scientific basis is called tabulation, and this is intended to provide a basis for further statistical work. As the raw material of commerce has to be graded according to degrees of similarity or dissimilarity, so the data for statistics require logical classification before they can be applied to subsequent uses.

In the majority of cases, business information is arranged either in a time sequence, e.g. profits year by year, or in a place sequence, e.g. profits in various departments or branches. Such arrangements of information are called frequency tables—they show, so to speak, the frequency with which a £ of profits occurs within a given period or in a given place.

Sometimes, however, the arrangement depends entirely on the degree in which the common feature occurs, and then the information is said to be arrayed. In the frequency table given overleaf, the information has been arrayed, i.e. the varieties and the corresponding sales have been arranged according to the size of the latter. The sales of a variety of commodities may be arranged in order of number or value; and then, in order to show how the firm's turnover depends on a few commodities, the sales may be accumulated variety by variety. The latter arrangement is known as a cumulative frequency table. The following are examples:

FREQUENCY TABLE	
Variety	Sales £
X	10,000
K	9,500
R	8,750
A	6,150
L	4,500
D	2,800

CUMULATIVE FREQUENCY TABLE	
Variety	Sales £
X	10,000
XK	10,000 + 9,500 = 19,500
XKR	28,250
XKRA	34,400
XKRAL	38,900
XKRALD	41,700

The cumulative frequency table reveals that commodities X and K are responsible for nearly half the firm's sales.

The same information may be tabulated in many other ways according to requirements. For example :

No. of commodities of sales less than £2,000—0	
" " " " " " " " 4,000—1	
" " " " " " " " 6,000—2	
" " " " " " " " 8,000—3	
" " " " " " " " 10,000—5	
" " " " " " " " of 10,000 or over—1	

The terms single tabulation, double tabulation, and so on, are used to express the degree of complexity of tables. Single tabulation gives only one fact about each unit, double tabulation two facts. Double tabulation might show the age and cost of every machine used ; treble tabulation would perhaps add running costs per hour :

TREBLE TABULATION			
DOUBLE TABULATION			Running cost per hour
Machines	Cost	Age in years	
	£		
A	10,000	10	1/6d.
B	5,000	5	2/-
C	9,000	12	4/-
D	6,000	7	1/9d.

Rules for Preparing Tables

Since tabulation is the basis for subsequent statistical work it requires considerable care. Certain rules regarding the preparation of tables of business data have been adopted by business statisticians after long experience, and these rules should not normally be relaxed.

The first rule is very elementary and, though often overlooked, it is undoubtedly the most important : no table should ever be presented without the clearest possible heading. The title is the key to the table ; unless the key fits perfectly the contents remain unknown. Dates, areas and qualities are features often overlooked, and it is quite a common error to omit, for example, even the name of the firm whose dealings have been recorded. Such omissions are fatal ; so is the omission of the source of information.

The second rule is that while it is usually easiest to read information from left to right, figures are best arranged in columns to be read downwards. Comparable figures should be in adjacent columns to be read from left to right. Columns of figures are always a strain on the eyesight, and any device that will relieve the strain should be adopted.

In accordance with further rules it is usual to separate different columns by lines of different thicknesses and to present adjacent columns in different type-faces or different colours. "Miscellaneous" columns should not be resorted to if they can be avoided, for they are usually meaningless. Sub-totals should not appear unnecessarily and final totals should be emphasized, perhaps by placing them at the head rather than at the foot of the table. A very complicated table should be split into two or more divisions.

Figures must always be economized to the utmost. Strings of noughts may be avoided by an indication in the heading that the table is in thousands or millions. Approximate figures are often quite serviceable and they greatly facilitate presentation. Averages and percentages should be put near the figures to which they refer.

All these rules are essential to the main purpose of every table, i.e. clearness and precision. The table must be entirely self-explanatory. Even a host of explanatory notes is to be preferred to leaving the reader in doubt. Once a particular style of table has been adopted, however, it is unwise to change the style in successive tables except for very strong reasons.

The following table illustrates some of the points mentioned :

X Company, Limited

Wages paid in factories A, B, C and D, analysed to show numbers of overseers, machinists, labourers and apprentices and amounts paid to them respectively for each factory, with totals of the four factories for the quarter ended 24th June, 194-.

From information supplied by the Secretary.

	A		B		C		D		Totals	
	Nos	Wages £	Nos.	Wages £	Nos.	Wages £	Nos.	Wages £	Nos.	Wages £
Overseers	50	6000	60	7200	40	4800	70	8400	220	26400
Machinists	200	19200	200	19200	200	19200	200	19200	800	76800
Labourers	60	2880	70	3360	40	1920	100	4800	270	12960
Apprentices	40	960	80	1920	60	1440	50	1200	230	5520
	350	29040	410	31680	340	27360	420	33600	1520	121680

EXERCISES FOR PRACTICE

These exercises are based on the information given in the above lesson.

1. What is a cumulative frequency table? Give an example.
2. What are the objects of tabulation? What rules are usually followed when tabulating?
3. Give an example to show the use of treble tabulation in statistics.

LESSON THREE**PERCENTAGES AND INDEX NUMBERS**

THE majority of people who are interested in business statistics look favourably on the presentation of figures on some percentage basis. Percentage ratios are easily calculated and easily understood, and their popularity makes them the general expedient in comparisons. They may, nevertheless, be very misleading unless prepared and presented with great care.

It is wasting a committee's time to state that wages have increased by 40%, 50%, 60% and 70% over the last four years, unless it is made clear on what basis the respective percentages are calculated. Did the wages in the last year increase 70% on the third year, on the year before the first year, or on some standard year not mentioned?

Advantages of Index Numbers

Probably the best way of presenting percentages is that of index numbers. Many published commercial statistics are in this form, and for comparing long series of prices, wages, and technical outputs, the method is unrivalled. Changes in the series are readily discerned and they may be easily linked up with events, thus facilitating the determination of causes of changes and making possible the forecasting of future changes.

The importance to business people of forecasting future changes needs no special emphasis. Many firms are nowadays interested in the extent of price changes due to changes in the quantity, and so the value, of money, and these changes may be traced by the judicious comparison of various series of prices.

Neither the real extent of variation in one series, nor the degree of similarity of variation in two or more series, may be determined by a mere examination of series expressed in different units. A series of wage rates cannot be effectively linked with a series of unit production costs, but proportionate or percentage changes in wage rates may well be compared with proportionate or percentage changes in unit production costs. Index numbers are a device for measuring relative fluctuations.

Choosing a Base Period

The first step, and probably the most difficult, in the preparation of index numbers is the selection of a suitable base period from which to measure changes. The essential characteristic of such a base will generally be the absence of the unusual. Obviously, if a base is abnormally high the indices will be artificially low; if it is abnormally low the indices will be artificially

high. If any period can be regarded as perfectly normal, as free from irregularities or unusual fluctuations, it may generally be taken as a suitable basic period.

Unfortunately, for a period in the twentieth century not to be an exception is itself an exception. Thus it is often found that an artificial basis is adopted, i.e. one deliberately contrived by the elimination of known irregularities. This may be done roughly by calculating the average of a long period, unusual fluctuations being deemed to cancel themselves out, or by taking a period so connected with the present that the same irregularities apply to both, as for example successive previous years or a period of, say, three years including the actual year. The latter device is fully explained in the following lesson.

Preparation of Index Numbers

The base period having been determined, the average price, wage or output in this period is given the basic index number 100, and average prices, wages or outputs in other periods are expressed as corresponding percentages. The result is a series of new figures on a common basis, easily comparable with similarly compiled figures of other series. If the base period for commodity A is taken as the month of April, when the price was 20/-, and February is taken for commodity B when the price was 4/2d., the indices for January, when the respective prices were 17/- and 3/6d., will be :

$$A. \frac{17}{20} \times 100 = 85.$$

$$B. \frac{3/6d.}{4/2d.} \times 100 = 84.$$

Index numbers for both commodities over a period of several months might be shown as follows :

Month	COMMODITY A		COMMODITY B	
	Average price series	Index	Average price series	Index
January	17/-	85	3/6	84
February	18/-	90	4/2	100*
March	19/-	95	4/-	96
April	20/-	100*	4/7	110
May	19/-	95	3/11	94
June	20/-	100	3/8	88
July	21/-	105	4/1	98
August	22/-	110	4/3	102

*The base period.

The same indices could, of course, be plotted on a graph, as shown in Fig. 1, in order to present the general trend more readily to the eye.

INDICES

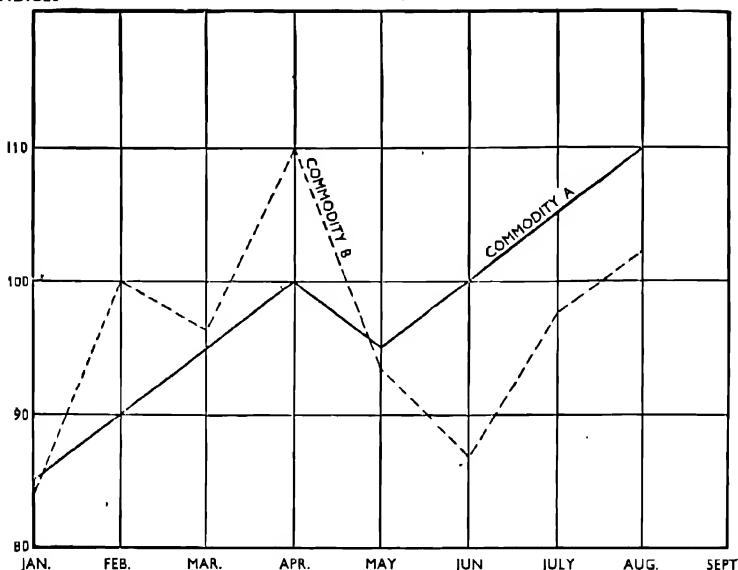


Fig. 1. Graph illustrating the use of index numbers to show two average price series—based on the data given in the foregoing table.

Great care is needed in the reading of indices, for they are naturally restricted by limitations of data. Very often it will be found that indices are dependent on purely nominal price quotations. These may be based on average figures and be reasonably reliable; but often they are merely the last available quotation, and, being perhaps already months old, are perfectly useless for most purposes.

Indices dependent on price quotations from different sources may show surprising discrepancies. The advantage of a consistent choice by the same individual, or by different individuals following a consistent policy, seems apparent, but there is also the disadvantage that consistency may degenerate into mere inflexibility. The sensitiveness of the statistician to latent changes and his skill in making proportionate adjustments will be important factors in overcoming such tendencies.

A final point to be borne in mind is that an index number for one particular quality of a commodity must not be used for other qualities. If there is likely to be any confusion as to the quality concerned, an explanatory note must be added. Clear headings and explanations are needed for indices as well as for tabulation.

EXERCISES FOR PRACTICE

These exercises are based on the information given in the above lesson.

1. What are index numbers? How are they calculated?
2. What are the most important characteristics of an ideal base period?

LESSON FOUR

USE OF AVERAGES

INDICES are a valuable method of analysing and summarizing data. There are no limitations to the forms that analysis and summarization of information may take, though always the main object is to give a concise picture of a complicated series.

In the preceding lesson it has been shown how the many prices of a period may be summarized for calculating indices by using the arithmetic average. This, the most popular of the averages, is determined simply by dividing the sum of the units by their number. The average of the prices 3/-, 4/- and 5/- = 12/- divided by 3, that is 4/-, and, incidentally, this simple calculation shows how erroneously the word average is commonly employed. What is an average man or woman?

The overriding advantages of the arithmetic average are the ease with which it may be calculated and the certainty that it will be generally understood. Being determined mathematically it may be used for further mathematical work. Every figure, even the exceptional figure, is taken into account in its determination, and no preliminary arranging or arraying of the data is necessary.

When the figures involved are very large the average may be obtained from an assumed average. Thus :

<i>Average to be found of</i>	<i>Assumed Average</i>	<i>Differences</i>
11,479,333,597	11,479,333,500	+ 97
11,479,333,670		+ 170
11,479,332,995		- 505
11,479,334,110		+ 610
		<hr/>
		+ 877
		- 505
		<hr/>
		4 372
		<hr/>
		93
		<hr/>

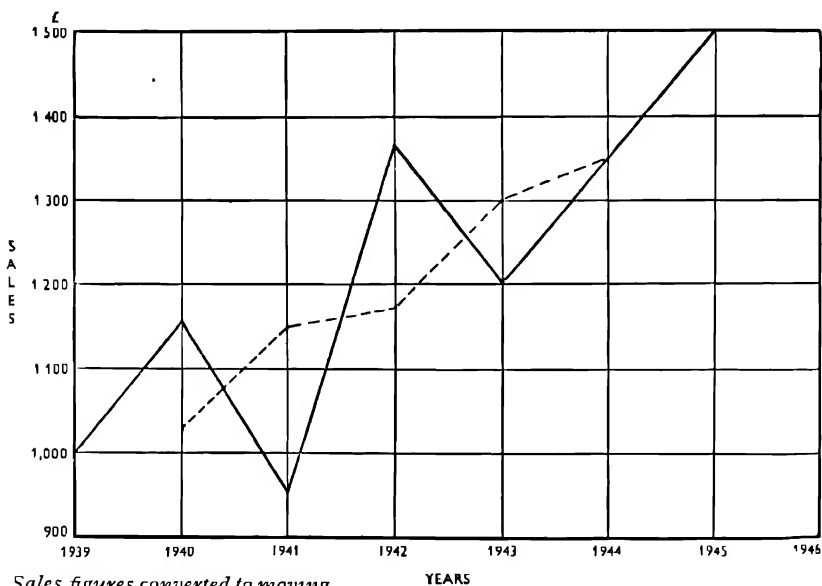
Thus the average = 11,479,333,500 + 93 = 11,479,333,593.

Unfortunately, representing nothing in reality, the average is liable to be criticized at meetings as a meaningless symbol. The average sales per week during the last twelve months may be £50,000, but the sales of no particular week may actually have been £50,000 and perhaps during the last six months the figures have been well below £50,000. Similarly, the figure may have been affected by, say, a special sales week, when sales amounted to ten or twenty times the normal figure. The figure of £50,000, when compared with a figure of £30,000 for the corresponding week of the previous year, seems to show a decided increase of prosperity; though, during the previous year, sales may have been increasing, whereas now they may be declining.

Thus, the average has to be chosen with care if it is not to be misleading, because of the occurrence of irregular features. It should be deliberately contrived to avoid irregularity. If a business is subject to periods of boom and depression, as will particularly be the case if, for example, it belongs to an industry specializing in capital equipment, averages should be computed on a number of years sufficient to cover all stages, and not merely sufficient to cover a number of good or a number of bad years.

Moving Average and Weighted Average

To avoid undue irregularities, the arithmetic average is, therefore, often converted into what is called a moving average. This is merely an average of a number of years taken in succession, the earliest year being dropped and the latest added with every successive year. Fluctuations in the period taken tend to cancel out, and association of the moving average with the current period admirably reveals the trend of the business. The trends of sales, profits, prime and labour costs may be most advantageously shown as in Fig. 2



Sales figures converted to moving average basis.

	£	£
1939	1000	
1940	1150	
1941	950	
1942	1350	
1943	1200	
1944	1350	
1945	1500	
		1033
		1150
		1166
		1300
		1350

Fig. 2. An example of a sales graph in which the principle of a moving average is employed. The data on which it is based are tabulated on the left. It will be seen that the thick line of the graph represents the true value of the yearly sales, the dotted line indicating the general trend on a moving average basis.

Very often the arithmetic average is adjusted so that instead of equal consideration being given to every figure, some figures are given special emphasis. It then becomes a weighted average. The weighted average is, of course, carefully adapted to the circumstances of the individual firm, and, in any average, what is weighted and how much it is weighted will depend on the teachings of experience in conjunction with known factors relevant to the special case.

When studying the trend of profits the directors of a firm may, in addition to a moving average as described above, use an average in which special weight is given to the profits of some particular department, of which the profits are for some reason more gratifying than the same amount of profits from some other department. It may be that it has long been the policy of the firm to encourage this department, or the department may be the mainstay of other departments. Similarly, the profits of a department which it is intended shortly to close down may be relieved of some weight when considering profit trends.

An example of the preparation of a weighted average of profits in various departments, in order to facilitate the plotting of a weighted profits trend in comparison with an actual profits trend, is given below :

1944			
	<i>Actual</i>	<i>Weighted</i>	
	<i>profits</i>	<i>profits</i>	
Dept. A	1,000	1,000	
B	2,000	3,500	(This department is the probable nucleus of much future business.)
C	3,000	3,000	
D	4,000	3,000	(This department is closing down shortly.)
<i>Actual average</i>	<u>£2,500</u>	<u>£2,625</u>	(Weighted average, taking into consideration other than numerical factors, i.e. prospects.)

1945			
	<i>Actual</i>	<i>Weighted</i>	
	<i>profits</i>	<i>profits</i>	
Dept. A	1,500	1,500	
B	4,000	6,000	
C	3,000	3,000	
D	3,000	1,500	(This department has now closed down.)
<i>Actual average</i>	<u>£2,875</u>	<u>£3,000</u>	(Weighted average, taking into consideration other than numerical factors.)

The difficulty in such cases is to determine the weights, which, however, are often by no means so arbitrary as they may appear. Past experience and the judgment of technical and financial experts may remove undue optimism or pessimism from an adjusted profits trend, which, taking other than mere arithmetical aspects into account, may be regarded as a reliable trend for purposes of business administration.

EXERCISES FOR PRACTICE

These exercises are based on information given in the above lesson.

1. What are the advantages of the arithmetic average in business statistics
2. How is a moving average calculated? Give an illustration.
3. In what circumstances would a weighted average usually be recommended?

LESSON FIVE

SIMPLE BUSINESS DIAGRAMS

COMPLICATED business information, as we have seen, may be made easy to understand by the use of percentages and averages. An increasingly popular method of presenting information, however, is the use of simple diagrams. The advantages of the methods already described are excelled by a method presenting what is in effect a picture that gives at a glance a general impression of the series as a whole, and on closer examination reveals important details concerning constituent parts.

It is usual, wherever possible, to give with this kind of diagram the tabulated information from which it has been prepared. This, however, does not diminish the need for ensuring that diagrams are self-explanatory, that they are properly headed, skilfully devised and clearly executed.

The choice of diagram depends on a number of factors, among which the nature of the data and the knowledge or intelligence of the persons or groups



Timber used. Each stack represents 1,000 standards of timber. The shadows represent a similar quantity used in the previous year.



Average number of men employed. Each figure represents 100 men. The shadows represent a similar number employed in the previous year.



Cases produced. Each case shown represents 300,000 cases, and each shadow represents a similar number produced in the previous year.

Fig. 3. Figure diagram revealing to employees who have been included in a profit-sharing scheme the main reasons for a decline in profits as compared with the preceding year. The firm produces packing cases, and it is evident from the diagrams that although more cases have been produced, disproportionately more men have been employed and to some slight extent disproportionately more timber. These factors suggest that increased sales have been obtained only by the production of better quality cases than were made in the preceding year.

to whom they are presented are perhaps the most important. Though most diagrams will show a bias towards simplicity, over-simplicity may often be unnecessary or even decidedly objectionable.

Figure Diagrams

In this connexion the simplest device for presenting elaborate information may be first mentioned. The man in the street may be initiated into the art of government, the mystery of public finance, and the complexity of defence administration by the careful use of figure diagrams. Tiny figures representing thousands or millions of soldiers, guns, tanks and aeroplanes may, with sliced figures to represent portions of a thousand or million, reveal to the citizen the way in which his money is spent in defence.

Figure diagrams are, however, not very serviceable in business ; they are, in general, too elementary for the use of any individual or group connected with a business. It is possible, nevertheless, that in the future they may be adopted by firms operating profit-sharing and similar schemes, in order to give information to employees and their dependents about the running of the business in which they have more than a worker's interest. (Fig. 3).

Bar and Pie Diagrams

The simplest diagram in common use in the office is the bar diagram. Much commercial information is of a two-dimensional character, and area as a representative symbol of amount is easily understood by most people.

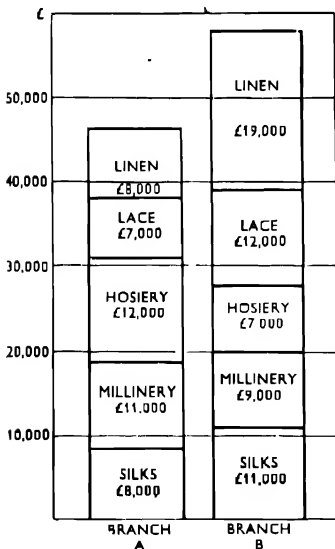


Fig. 4. Bar diagram showing the constituent sales of two branches of a business.

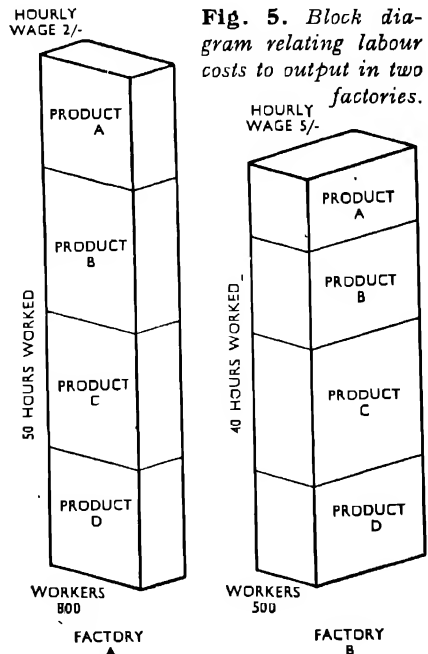


Fig. 5. Block diagram relating labour costs to output in two factories.

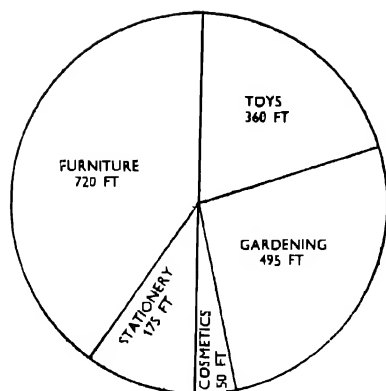


Fig. 6. Pie diagram showing the distribution of floor space between the various departments of a store

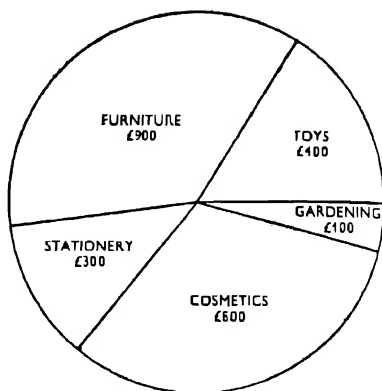


Fig. 7. Pie diagram showing the distribution of sales between the same departments for a given year

The method is ideally suited to the portrayal of the constituent parts of an aggregate, for comparison with the constituent parts of another aggregate to compare, for example, costs, turnovers or related outputs in quantity or value (Fig 4)

When extended to cover three-dimensional information the diagram becomes a block diagram, perspective being usually ignored (Fig 5)

Sectors of a circle used as areas to show relative amounts tend to be deceptive when compared with squares or rectangles. They are, nevertheless very often used in what were formerly called circle diagrams but are now called pie diagrams. They are used to show, for example, the relative amounts of floor space occupied by various departments as compared with respective sales or profits. Measurements may easily be made by dividing the circumference into 360 degrees (Figs 6 and 7)

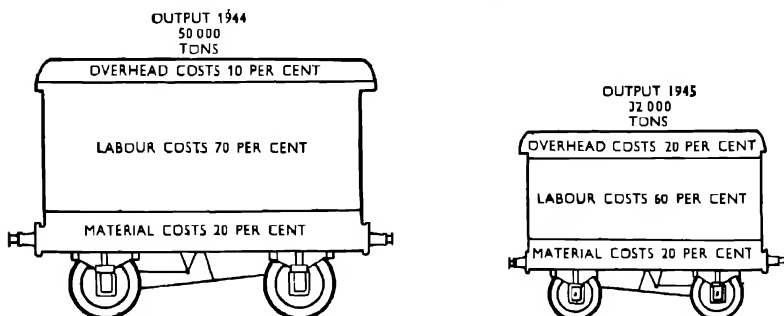


Fig. 8. Pictorial diagram to reveal to employees in a coal mine the fall of output in 1945 as compared with 1944. The diagram incidentally shows how the cost per ton is divided between labour, material and general overheads.

Pictorial Diagrams and Cartograms

Instead of bars, blocks and sectors, drawings of actual commodities may be used to show constituent parts. Pictorial diagrams, a modification of figure diagrams, may be used (a) to compare relative content, (b) to reveal constituent parts, (c) to emphasize or give interest to other diagrams (Fig 8).

The ordinary sales efficiency campaign is probably most suitably based on a cartogram, or map of a particular area marked with dots or shading to show the amount of actual sales and potential sales in that area. A dot may denote say £1 000 of sales; a certain degree of shading may denote an aggregate sales figure of not less than £1 000 per square mile, etc (Fig 9). Potential sales may be ascertained by gathering information from various sources particularly by sifting official statistics.

In diagram work the skill of the statistician lies not in the preparation of the diagram but in the choice of diagram—in the choice that is of the method of presentation of the relevant data.

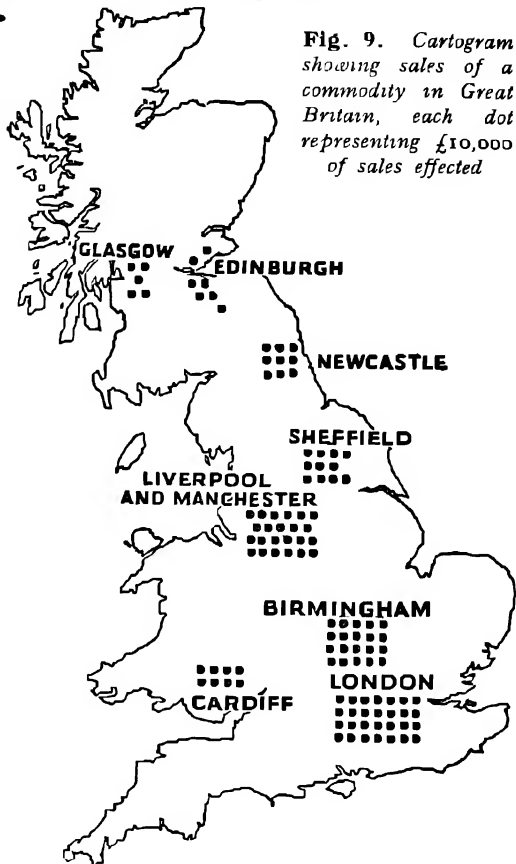


Fig. 9. Cartogram showing sales of a commodity in Great Britain, each dot representing £10,000 of sales effected

EXERCISES FOR PRACTICE

These exercises are based on the information given in the above lesson.

- 1 Illustrate by diagram or diagrams the following figures

Factory

Output in £s

	$\frac{1}{2}$ " nails	1" nails	2" nails	Total
A	1,000	1,250	1,500	3,750
B	1,750	1,500	1,250	4,500

- 2 Suggest a pictorial diagram to advertise a preserve of unusually high fruit content
- 3 What factors will guide the statistician in his choice of diagrams for presenting information?

PRESENTATION OF BUSINESS CHARTS

ONE of the greatest advantages of a business diagram is its simplicity. The intention is to give at a glance a complete picture of complicated data to a person without the time or the ability to study data more closely. Certain more advanced diagrams, which may be distinguished as charts, may be of a graphical or mathematical character. While they may be used for the same purposes as simple diagrams, they are usually intended for more prolonged study by people more interested in them or more capable of reading them. They control technological progress, facilitate business administration, and as a result tend to increase the profits of a firm or diminish its losses.

Carefully prepared, clear, simple, attractive charts are indeed indicators of the business tempo; they register internal movements efficiently and promptly; without them administration is irresolute, slow and insufficiently elastic. As a solution to the problem of ready presentation of financial and technical data to persons of varying intelligence and interests the method is already popular and its use is extending.

A chart is a graph or diagram on a grid or chart-field. One grid may be used for several charts. The skilful linking of kindred charts in this way for comparative purposes calls for experienced study of the relevant material, but such multiple charts have immense possibilities. Sections of the diagram should not, of course, interfere with each other and unrelated facts should never be plotted on the same grid for mere convenience.

Rules for Preparing Charts

The forms of the business chart are without limit, the chief merit being appropriateness to the actual circumstances of the business. The skill of the statistician consists in judiciously applying a technique to circumstances never perhaps exactly paralleled. Yet certain rules may be regarded as essential to the skilful preparation of most charts—they are rules adopted by most business statisticians and are fortunately not unduly difficult to remember.

Thus, it is no longer good practice to make the size of the paper suit the chart; standard quarto, foolscap or brief sizes, with ample margins around the grid, are usually employed. Most grids represent time series, and the horizontal axis, reading from left to right, is reserved for the time gradations to facilitate observation of progress. The diagram may be confusing unless a zero line appears on the grid (though it may appear on a broken section); unless heavy lines on the grid have a special significance; and unless colours are used with great discrimination. All titles should be clear and complete, and no statistician doing practical work should ever fill in a grid without stating the source of his information and, if possible, adding basic figures. All factors of value should be emphasized, and significant lines should be especially distinct. Contrary to some opinion, a small compact picture capable of assimilation at a glance is preferable to artistic attempts of more elaborate design and extravagant proportions.

Varieties of Chart

The charts now described are usually found to be of the greatest practical advantage, the examples given being, of course, of an elementary character. If scales of equal gradations are used for the horizontal and vertical axes of the grid the result is the "amount of change" chart, which is the simplest and perhaps the most usual. It merely compares different amounts of related quantities in graphical or other form, and a time graph of profits and turnover may be taken as a typical example (Fig. 10).

Occasionally, a ratio or logarithmic scale may be advisable for one axis, the resultant "rate of change" chart having the advantage of showing comparative rather than absolute changes. Identical curves show equal proportionate changes, so an ideal or true proportionate curve may be shown in red ink or by a dotted line. An example of this kind of graph is given in Fig. 11. It will be seen in this example that the ideal proportion curve, shown by the dotted line, is an exact copy of the line representing turnover; being superimposed on the line representing profits, it reveals at once the trend of profits in relation to turnover.

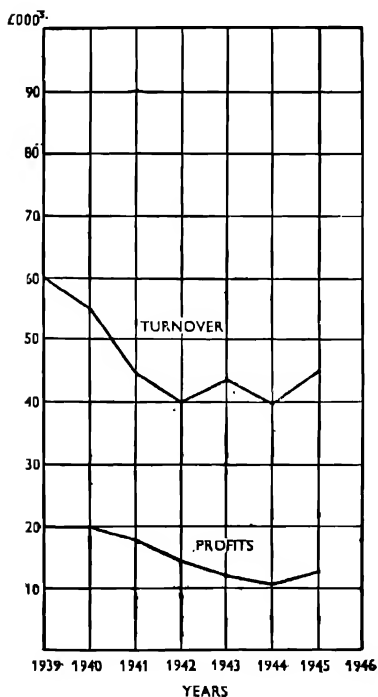


Fig. 10. An example of an amount of change graph, plotted to show the relationship between the turnover and the profits of a business undertaking.

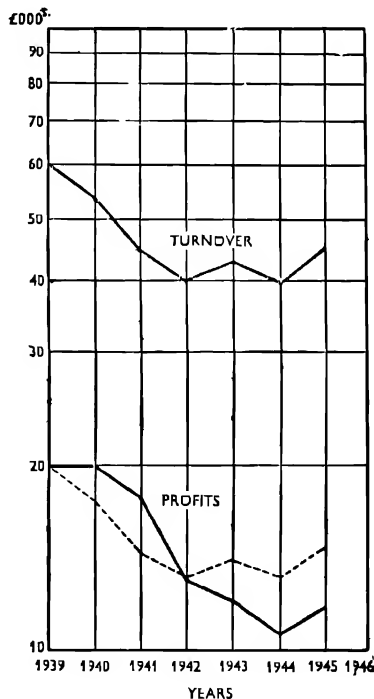


Fig. 11. A rate of change graph comparing turnover with profits. Here a ratio scale is used for the vertical axis, as described above.

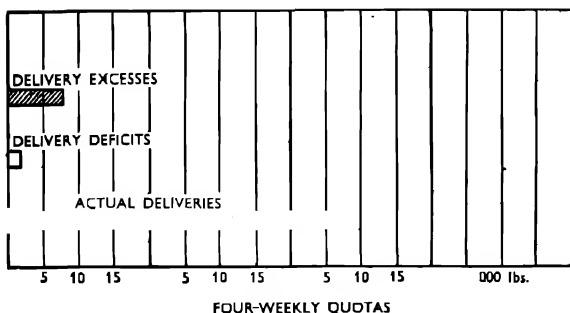


Fig. 12. *A simple form of progress chart, comparing deliveries with quotas and showing accumulated excesses or deficits.*

"Progress charts" of greatly varying character have become popular as a result of quotas and restrictions. Members of trade associations have made considerable use of them—a use that is likely to continue. Progressive horizontal lines or bars on a grid, arranged according to quota or other units, may be used in the manner indicated in Fig. 12. In this example, which compares a four-weekly quota with actual amounts received, the lowest bar represents deliveries made during each four-weekly period, and begins in each case at the thick vertical line on the left of the section. Any excess or deficit for the month is recorded on the top or middle bar, the difference between these two bars showing the total excess or deficit in deliveries to date.

An alternative form of progress chart is the sectional graph, which is widely used in Canada and the U.S.A. and will probably gain popularity in Britain once the scheme has been understood. In the example given in Fig. 13 the thick line on either side of the quota line reveals the regularity

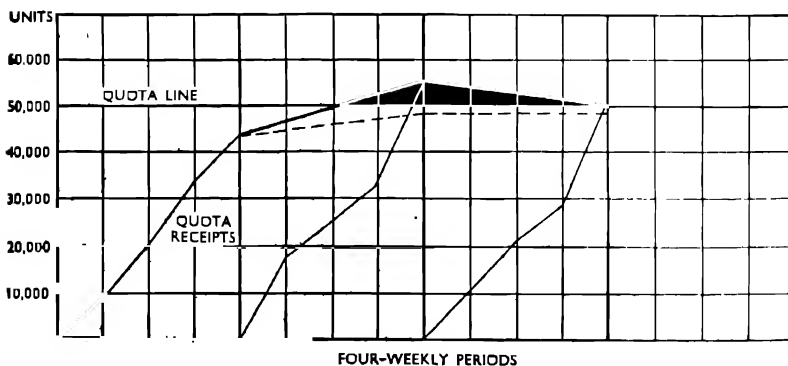


Fig. 13. *A sectional graph comparing supplies received with quota allowed. The thin graph lines represent amounts received during three consecutive four-weekly periods, the thick line indicates the regularity of supplies and the broken line the amount by which the accumulated receipts exceed or fall short of the quota. This type of graph is perhaps a little complex, but it can be used to great advantage when its general principles have become familiar.*

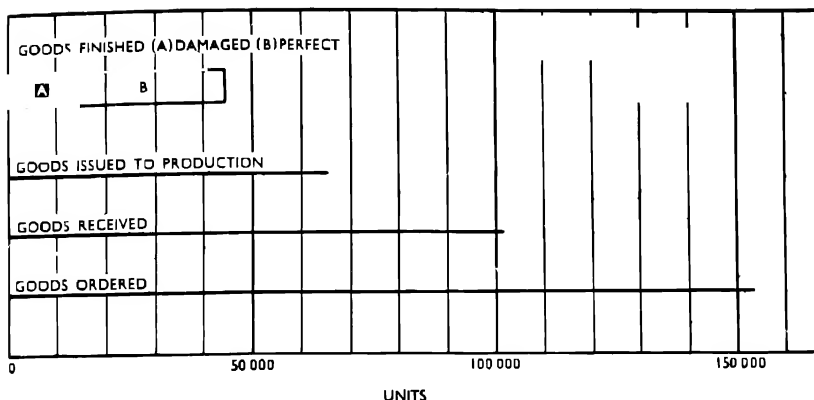


Fig. 14. *Progress chart recording the flow of goods through a factory. Differences between the length of the lines reveal the amount of goods ordered and still awaited, quantities held in stock, and goods in course of production.*

of supplies, if it coincided with the quota line supplies would be perfectly regular. The broken line reveals the extent to which the accumulated total exceeds or falls short of the accumulated quota, thus, if at the end of any four-weekly period it is below the quota line, the difference between the two shows the amount which has still to be received to bring all supplies up to date.

A simple form of progress chart is used in factories to control process or departmental receipts and clearances of commodities. Differences between the lengths of lines would represent goods ordered and not delivered, goods in stock, and goods in process of production. This form of chart is illustrated in Fig. 14 above.

The choice between diagrams and charts—as between one diagram and another or one chart and another—involves that discrimination which is probably the statistician's greatest asset. His choice will depend on the nature of the data, on the conclusions from the data that it is desired to emphasize, and on the type of individual or individuals to whom the work is presented.

To present simple business data, of which the implications are obvious, to one person or a group of similar persons, may be an easy task, the farther the actual circumstances drift from this ideal the greater the claim on the statistician's talents.

EXERCISES FOR PRACTICE

These exercises are based on the information given in the above lesson.

1. Mention some of the rules that should ordinarily be observed when preparing charts.
2. Compare the advantages of "rate of change" and "amount of change" charts.
3. How may progress charts be used to prevent bottle-necks?

SAMPLING—THE USE OF PUBLISHED STATISTICS

VERY often the statistician finds that in spite of all his efforts his remain unsatisfactory. The content is defective or short; full reliable information cannot be obtained at all or can only be obtained by effort or expense unwarranted by the nature of the investigation. In cases summarization may be effected by sampling, or statistical induction as it may be called. Contract by sample is well known in business procedure so the exploitation of sampling is a device that may perhaps be welcome in business statistics.

Statistical induction depends on two well-known statistical laws, the statistical regularity and that of inertia in large numbers. The former may be expressed thus: a group chosen at random, i.e. without bias, from a larger group tends to have the characteristics of the larger group. The latter law states that the more at random the selection, the greater the chance of every characteristic being included and the greater the reliability of the results.

The latter law is the relatively greater stability in large numbers than in small. Movements in an aggregate are the result of movements in the parts, but it is unlikely that the latter movements will be all in the same direction. Compensation of bias leads to accuracy, and the greater the aggregate the greater is the possibility of compensation. Sample prices taken at random in a great number of markets should supply the statistician with a fairer picture of prices quite as reliable as results obtained by endeavouring to take all markets into account.

Sampling may be found to result in a slight error that is difficult to explain. This error will, of course, appear in a greater or less degree in calculations based on the samples. In such cases, as in statistics generally, an attempt should be made to assess the amount of error. No figures should ever appear without an indication of the possible range of error on either side of the figure given. To fail to give an indication of error in an approximate figure is almost as unforgivable as aspiring to impossible accuracy. What must the board of directors think of a gross profit percentage on turnover worked out to six places of decimals—to 1/1,000,000th of 1%—when neither gross profit nor turnover can, in view of accounting adjustments, be regarded as absolutely accurate to, say, £100?

Biased and Unbiased Errors

With regard to error generally, a distinction has to be carefully made between different kinds of errors. Sampling, it has been seen, depends upon the absence of bias. And against bias the statistician has to be constantly on guard, for it may occur in data presented to him both as a result of deliberate contrivance and of unconscious prejudice.

Thus, figures showing the profits of individual firms collected either privately or officially are more likely to be understated than overstated, for tax charges put a premium on understatement. The figures are probably biased, i.e. they are all likely to be inaccurate in the same direction, and the aggregate error is likely to be much greater than where errors are unbiased—where

figures of machinery depreciation are given, some in excess of, and short of the true figure, because of the difficulties of measurement. The business figures may, of course, be subject to both biased and unbiased at the same time. The effects of the different kinds of errors may be seen from the following table :

(a) BIASED ERRORS.

<i>Profits returned for Income Tax</i>	<i>Supposed true figure</i>	<i>Error</i>
£1499	£1514	- 15
3877	3915	- 38
5990	6049	- 59
7480	7554	- 74
8900	8999	- 99
	<hr/> £28,031	<hr/> - 285

$$\text{Aggregate error} = 285/28,031 = \cdot 01$$

(b) UNBIASED ERRORS.

<i>Depreciation calculation</i>	<i>Supposed true figure</i>	<i>Error</i>
£540	£545	- 5
620	614	+ 6
730	737	- 7
840	830	+ 10
920	929	- 9
	<hr/> £3,655	<hr/> - 5

$$\text{Aggregate error} = 5/3655 = \cdot 001$$

though in these examples the individual errors are approximately of the same proportion, it is seen that in the case of profits the error accumulates, whereas in the case of the depreciation calculation it tends to cancel out.

Published Statistics

Sampling must be resorted to for the collection of information in some cases, whereas in others statistics already prepared are to the statistician's hand. The extent of published statistics is, indeed, greater in the field of business than in any other.

Many of these statistics are in the form of index numbers. Commodity prices are almost invariably quoted in this form. The *Economist's* series of wholesale prices—covering 58 items altogether—takes as a base the year 1913. The Board of Trade's index of wholesale prices—150 items—is calculated on prices in 1913. The *Statist's* index includes 45 commodities and uses as a base the prices during the period 1867–1877.

Published price indices are not of great value in business, but the Ministry of

Labour's index should be noted since it may be used to trace changes in purchasing power of money and so aid in the interpretation of other indices.

Other forms of published statistics likely to be found useful include the Board of Trade's periodical census of production, in which will be found details of industrial output with particulars of wages and costs of materials. Important information of a general character referring to the volume of retail business is published in the *Board of Trade Journal* at the Bank of England, the former adding figures regarding employment in the retail trade.

Certain businesses may derive considerable advantage from the statistics of traffic published by the railway companies, and others from the statistics covering investment and the money market. Output figures for certain industries are also published by Government departments.

Besides the usual published statistics, the business statistician will probably have brought to his notice many statistics of a private character devoted to the interests of the trade or industry of which his firm forms part. Trade associations, which have grown apace in recent years, are realizing the value of co-ordinated central statistics carefully prepared and presented for the benefit of individual members and the group as a whole.

The uses of published statistics depend, of course, on the nature of the business. Price statistics can be used for tracing price movements and for casting future prices. Trends of wage rates will facilitate price determination in tendering and speculation. Such uses are obvious; the statistician, however, always be on the look-out for published statistics that may directly aid business administration.

Statistics of population may appear uninteresting until it is realized that the area and age group aggregates they reveal something of the potentiality of a prospective market. So do statistics of local employment, of local rateable value, of local car purchases, and so on. Dry figures of apparently irrelevant material may prove the keystone of the arch of increased sales, increased profits and the statistician's personal success.

Keeness to discover hidden potentialities is, indeed, an attribute which distinguishes not only the clever statistician but any successful man or woman in business life. Commerce has become more and more a competitive sphere and those who have applied their energies to acquiring the right knowledge and have also trained themselves to turn the commonplace fact to good account, have a valuable advantage over their fellows. It should not be forgotten that while many achieve success through natural ability and the sharpness of their wits, many more reach the same goal through careful self-education and the application of tested and proven principles.

EXERCISES FOR PRACTICE

These exercises are based on the information given in the above lesson.

1. Of what use may sampling be in business statistics? What precautions are necessary in its use?
2. Of what use may published indices of prices be to a business?

